A STUDY TO ASSESS THE EFFECTIVENESS OF FOOT MASSAGE ON LEVEL OF POST OPERATIVE PAIN AND SLEEP AMONG PATIENTS WITH ABDOMINAL SURGERY AT ASHWIN HOSPITAL, COIMBATORE

By

Reg. No: 301211105

A DISSERTATION SUBMITTED TO THE TAMIL NADU Dr. M. G. R. MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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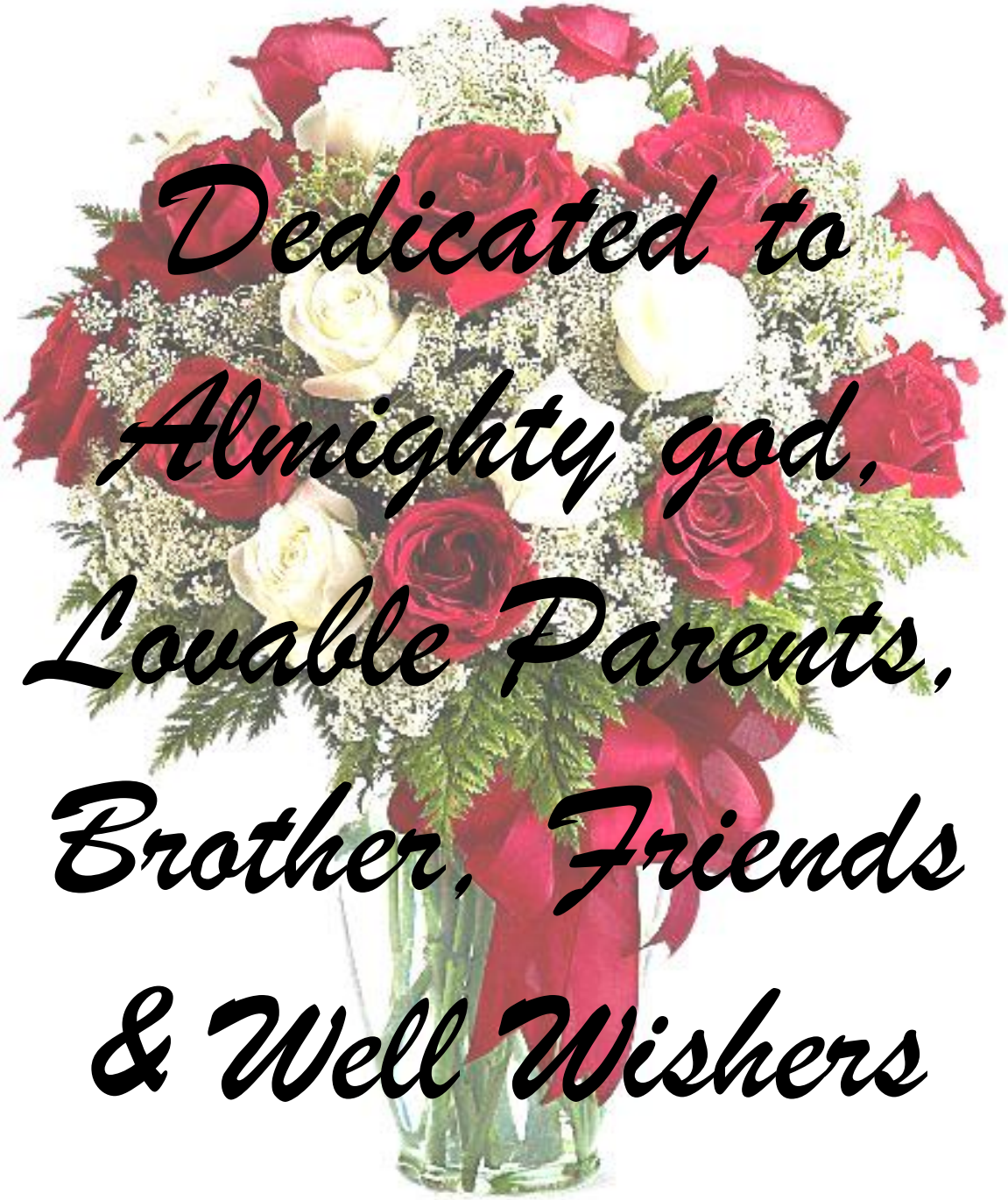

Dedicated to
Almighty god,
Lovable Parents,
Brother, Friends
& Well Wishers

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CHAPTER - I

Introduction

'For all the happiness mankind can gain

Is not in pleasure but relief from pain'

World Health Organization (2010) stated that health is a state of complete physical, mental and social well being and not merely in the absence of disease or infirmity. Hence, the healthcare system in India has been changing drastically, and we must anticipate a tremendous transformation due to advances in science and technology.

Sanjay. K (2011) said that surgery has become an integral part of global health care, with an estimated 234 million operations performed yearly. A significant proportion of the population has undergone one or the other forms of surgical procedures at one or more points in the life time of an individual.

Gorsle. C. M (2012) explained that abdominal surgery is the most challenging thing needed for abdominal problems. The major abdominal problems are appendicitis, hernia and carcinoma in stomach. Therefore abdominal surgery is performed and determined the outcome after treatment.

Philip Corke (2013) said that the amount of pain suffered after surgery has been statistically estimated about 25% to 93%. It is based on the extent of tissue damage and the site of surgery. Operations on the thorax and upper abdomen are more painful than procedures on the lower abdomen.

The World Health Organization (2010) defined pain as an unpleasant sensory or emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

Wang. H. L (2011) said that physiological responses to pain create harmful effects that prolong the body's recovery after surgery. Patients routinely report mild to moderate pain even though pain medications have been administered. Complementary strategies based on sound research findings are needed to supplement postoperative pain relief with pharmacologic management. Foot and hand massage has the potential to assist in pain relief. Massaging the feet and hands stimulates the mechanoreceptors that activate the *nonpainful* nerve fibers, preventing pain transmission from reaching consciousness.

Potter and Perry (2009) defined sleep as a normal state of altered consciousness during which the body rests; it is characterized by decreased responsiveness to the environment, and a person can be aroused from it by external stimuli.

Suzanne (2011) said that massage is the transmission of energy in the form of motion or motion with pressure to the various parts of the organism. Foot massage is one of the relaxing treatments which we can give it to ourselves and to others. The ultimate study of foot massage is foot reflexology. It involves applying focused pressure to known reflex points located in the foot to cure or prevent disease. Massage has been practiced as a healing therapy for centuries in nearly every culture around the world. It helps to relieve muscle tension, reduces stress and evokes feeling of

calmness, induces sleep and it particularly influences the activity of musculoskeletal, circulatory, nervous and lymphatic system.

Need for the Study

Datamonitor (2011) estimates that there were 7.4 million major abdominal surgeries per year in the world. This number is not expected to change significantly, growing to 8.1 million surgeries in 2020 in world. In India the incidence of abdominal surgery is 12.6% among adult males and 20.8% among adult females.

Smeltzer. S. C (2010) said that abdominal surgery is the most common intervention needed for major abdominal problems in recent years. Postoperative pain is caused by tissue damage that induces release of chemical mediators from the surgical wound. The four processes of pain are transduction, transmission, perception and modulation. Pain medication is the gold standard for acute postoperative pain relief.

Sona Chaturvedi (2012) stated that postoperative pain is both distressing and detrimental to the patient. The management of postoperative pain involves assessment of the pain in terms of intensity at rest and activity associated pain, treatment by pharmacological and non pharmacological means as well as monitoring induced side-effects. Besides being physically and emotionally disabling, the pain is associated with various physiological effects of increased perioperative stress response.

Sommer Rijke (2008) said that patients after surgery expressed moderate to severe pain. Among them, 20-40% expressed moderate or severe pain, and 40% to 70% experienced severe pain.

Rist. J. A (2011) said that serotonin is one of the most important brain chemicals, or neurotransmitters, for regulating the sleep/wake cycle. Diet high in the amino acid, tryptophan can maintain healthy serotonin levels, but bodies' physiological changes like pain, difficult breathing and any other discomfort which can disturb sleep schedule that leads to disrupt serotonin production. When serotonin levels are not normal, sleep disturbances and other issues can result, in depression and chronic fatigue syndrome.

Kirsh and Hinshaw (2010) said that nurse has a role to control and relieve acute postoperative pain by using both pharmacologic and nonpharmacological approaches. Pharmacological management includes non-opioid, opioid and anesthesia. Opioid analgesia alone may not fully relieve all aspects of acute postoperative pain. Complementary therapy as an adjuvant therapy may potentially relieve acute postoperative pain .So foot massage is an independent nursing intervention that can be applied to patients who are pain. Foot massage is easy to apply, costless and no need special equipment.

The National Sleep Foundation (2011) stated that medical researchers have long sought to clarify the association between sleep disturbance and pain. Key findings indicate that sleep and pain are intricately linked. For example, studies of patients experiencing pain after surgery show disturbed sleep, reduced rapid eye movement (REM) sleep, and a normalization of sleep as recovery proceeds.

Khali (2010) stated that foot massage reduces waste products such as lactic acid and carbonic acid that build up in muscles after activity and causes cramping,

discomfort and irritability. It also enhances the immune system and aids in recovery from soft tissue injuries by increasing blood circulation to injured areas.

Indrajit Deshmukh (2013) said that seeking a cure in modern medicine is not always advisable as sleeping pills to dependency, and in some cases, fatal addiction. There are several natural cures that could explore and one of the most effective options among them is foot massage. That is massaging some points on the foot for treating problems. There are certain complementary and alternate healing techniques to support the treatment plan, and many people prefer this technique over modern medicine.

Grace Covelli (2014) said that foot massage has been practiced for centuries to promote health and well-being. Today, massage is considered as complementary and alternative medicine used by millions to relieve pain, reduce stress and anxiety, promote sleep, rehabilitate injuries and boost general health. The practice of foot reflexology massage involves applying pressure to specific points on the feet in order to affect various parts of the body.

During the investigator's clinical experience it is found that nursing care rarely focuses on pain and associated sleeplessness control measures except medication administration after the surgery. Now a day's people are more likely to get treatment without side effect. So they prefer complementary and alternative medicine. This inspired the researcher to conduct a study to assess the effectiveness of foot massage on level of post-operative pain and sleep among patients with abdominal surgery.

Statement of the Problem

A study to assess the effectiveness of foot massage on level of post-operative pain and sleep among patients with abdominal surgery at Ashwin Hospital, Coimbatore.

O**bjectives**

- To assess the level of pain among patients with abdominal surgery before foot massage in experimental and control group.
- To assess the level of sleep among patients with abdominal surgery before foot massage in experimental and control group.
- To provide foot massage to reduce the level of post operative pain and induce sleep among patients with abdominal surgery.
- To assess the level of pain among patients with abdominal surgery after foot massage in experimental group.
- To assess the level of sleep among patients with abdominal surgery after foot massage in experimental group.
- To compare the effectiveness of foot massage on level of pain and sleep among patients with abdominal surgery in experimental and control group.
- To associate the finding with selected demographic variables in experimental group.

Hypothesis

H_1 There is a significant difference in pain among patients with abdominal surgery in experimental and control group.

H_2 There is a significant difference in sleep among patients with abdominal surgery in experimental and control group.

H_0 There is a significant association between the selected demographic variables with level of pain and sleep in experimental group.

Operational Definitions

Assess

The systematic collection of data to determine the patients health status and actual or potential problems.

Effectiveness

It refers to extent in which the foot massages has achieved desired effect in reducing pain and induce sleep after abdominal surgery.

Foot Massage

It is a technique by which the feet are stroked gently and rhythmically to reduce pain and induce sleep.

Pain

It is a subjective feeling faced by the patient after abdominal surgery.

Sleep

It is naturally occurring altered state of consciousness and responsiveness to stimuli after abdominal surgery.

Abdominal Surgery

It refers to any surgical operation on organs in the abdominal cavity including the stomach, gall bladder, small and large intestine, uterus and appendix.

Assumptions

- Foot massage reduce the pain among the patient with abdominal surgery
- Foot massage induce the level of sleep among patients with abdominal surgery

CHAPTER - II

Review of Literature

'Treating the body is really about treating the mind'

- Hailey (2007)

Review of literature is the key step in research process. Traditionally it is considered as a systematic and critical review of the most important scholarly literature relevant to research project.

A review of literature involves a systematic identification, location, securitization and summary of written materials that contain information on a research problems.

A literature review is a written summary of the state of existing knowledge on a research literature involves the identification, selection, critical analysis and written description of existing information on topic (Polit, 2012).

Review of Literature is Discussed Under the Following Headings

- Literature related to post –operative pain, sleep and its management among surgical patients.
- Literature related to health benefits of foot massage.
- Literature related to effect of foot massage on post operative pain and sleep among abdominal surgery patients.

Literature Related to Post Operative Pain, Sleep and its Management Among Surgical Patients

World Health Maintenance Survey (2010) conducted a census in government hospitals, suggested that there were (8.6 %) abdominal surgeries and (4%) other surgeries in a year. The most common surgeries were herniorrhapy, caesarean sections, appendectomy and hysterectomy.

Chaturvedi (2011) defined that pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage". Postoperative pain is considered a form of acute pain due to surgical trauma with an inflammatory reaction and initiation of an afferent neuronal barrage. It is a combined constellation of several unpleasant sensory, emotional and mental experience precipitated by the surgical trauma and associated with autonomic, endocrine-metabolic, physiological and behavioral responses.

Rowbotham. D (2011) conducted a survey on prevalence of pain after surgery. 110 patients were selected randomly for the present study. In majority of patients, post operative pain is preventable with adequate analgesics and by the appropriate use of newer technology. The survey report showed that there is high prevalence (85%) of significant pain after surgery.

Apfelbaum (2008) conducted a study on post-operative pain experience from a national survey to assess post-operative pain experience and the status of acute pain management, conducted a national study by using telephone questionnaires. Approximately 80% of patients experienced acute pain after surgery. The study

concluded that the experience of post-operative pain was most common concern of patients after surgery.

Nelson (2014) stated that pain is very difficult to measure, since it is essentially a subjective perception, a private experience that they can try to explain to someone else but never fully can. He used visual analog scale, numbering scale for measurement. After three year in 2013 approximately 80-95% of the patients found that they had severe pain after surgery

Beart. R.W (2011) stated that the management of postoperative pain involves assessment of pain in terms of intensity at rest and activity associated pain, treatment by pharmacological and non pharmacological means as well as monitoring induced side-effects. Thus, despite all efforts,it continues to be inadequate pain relief in a large majority of patients. The introduction of multimodal analgesia including opioids and non-opioids, delivered through various routes, local anesthetics, either alone or in combination with other drugs and techniques such as patient controlled analgesia and pre-emptive analgesia have greatly improved the efficacy of pain-control while minimizing the side-effects of any one modality. The recent recommendation of planning the pain service in an organized manner and implementation of Acute Pain Services (APS) has proven to be beneficial and rewarding.

Arthur. J (2013) conducted a study to test the hypothesis that opioids and pain contribute independently to postoperative sleep disturbance. 10 women who were randomly selected, undergoing surgery required lower abdominal incision for treatment of gynecologic conditions. They received epidural opioids (fentanyl) (n=10) for intraoperative and postoperative analgesia. Polysomnography was performed in a

standard patient room on the preoperative and first three postoperative nights. Pain at rest and with coughing was evaluated using a visual-analogue pain scale each evening and morning. Result showed that on the first postoperative night, rapid eye movement (REM) sleep was abolished in all patients. The study concluded that postoperative patients suffer a profound sleep disturbance even when opioids are avoided and pain is well controlled.

Redeker. N. S (2014) conducted a study to examine the relation of sleep pattern to physical function and emotional well-being at 4 and 8 weeks after cardiac surgery. Cardiac surgery patients (n = 72) were wrist actigraphs and completed sleep diaries for 3 days during 4 and 8 postoperative weeks. Pearson correlations and hierarchical multiple regression analysis were used to analyze the data. Result showed that mean sleep efficiency was 71% at 4 weeks and 74% at 8 weeks, as measured with wrist actigraphy. According to participants' self-report, 64% experienced sleep disturbance at 4 weeks and 47% at 8 weeks. Sleep pattern variables, including sleep efficiency and self-reported sleep quality, explained 16% of the variance in physical function at 4 weeks. Self-reported sleep quality explained 8% of the variance in physical function at 8 weeks as well as 12% of the variance in emotional well-being at postoperative week 4 and 13% of the variance at postoperative week 8. The results suggest that sleep contributes to both physical functional and emotional well-being at 4 and 8 weeks after cardiac surgery.

Beydon (2009) conducted a three-fold questionnaire survey in 176 consecutive patients undergoing elective abdominal, orthopaedic or vascular surgery to assess the quality of sleep in surgical patients the amount of self-rated postoperative insomnia

and its predisposing factors, the first questionnaire was completed on the day of preceding surgery, the second at the day of discharge and the third at two weeks later. This survey concerned the patient's general status, his usual sleep profile and factors which could interfere with sleep (hypnotics, pain, environmental factors) throughout the study period. Perioperative insomnia appeared to be a long-lasting phenomenon which persisted after discharge. Factor analysis and multiple regression models showed that postoperative, self-rated insomnia was multifactorial and mainly explained by the amount of postoperative pain.

Simpson. T (2009) conducted a study on effective management of sleep disturbances after cardiac surgery requires insight into patients perceptions of which factors disturb sleep in the intensive care unit. A convenience sample of 102 patients was surveyed in a 300-bed, acute-care teaching hospital. Patients were interviewed for several days before discharge from the hospital and rated the extent of pain and anxiety disturbed their sleep while in the intensive care unit after cardiac surgery. Patients attributed to disturbed sleep. The factors such as pain and anxiety that disturb sleep and it vary among patients physiological status. Nurses modified operative pain and anxiety that disturb sleep to promote an environment that will facilitate improved sleep, thereby enhancing the acute phase of recovery from cardiac surgery.

Edinburgh. E. H (2009) conducted a study about their experiences of pain and sleep following abdominal surgery with one hundred patients. Pain was the most commonly reported cause of night-time sleep disturbance and analgesics helped more patients to get back to sleep than any other intervention. An examination of patterns of analgesic provision revealed that the number of doses given peaked at two points

during the 24-hour cycle. The highest number of doses were given between 8 a.m. and 12 noon and 8 p.m. and 12 midnight. Fewer doses were given at night, between midnight and 4 a.m. The assessment and control of post-operative pain at night requires further attention in order to optimize pain control and promote sleep.

Literature Related to Health Benefits of Foot Massage

Unal Aryan (2013) conducted a randomized controlled experimental study with pretest–posttest design. The aim of this study was to determine the efficiency of foot and hand massage on reducing postoperative pain in patients who had cesarean section. The result was reported that the reduction in pain intensity was significantly meaningful in both intervention groups when compared to the control group. It was also noted that vital findings were measured comparatively higher before the massage in the test groups. Foot and hand massage proved useful as an effective nursing intervention in controlling postoperative pain.

Mandvare Behool (2010) had conducted a quasi-experimental research approach with one group pretest-post test design which was used to determine the effect of ten minute foot massage on pain reduction in postoperative coronary artery bypass graft patients in a cardio thoracic specialty hospital, Kolkata. Foot massage was given to selected patients twice a day for four days. At the end of each foot massage session pain was measured. On fourth day a self report in the form of 5 point Likert scale was given to the patients to assess the psychological response of the patient. The result indicating a significant difference in the pre and post massage pain scores and the findings of the opinionnaire showed that most of the patients (80-90%) expressed a positive opinion of foot massage which shows the high acceptability rate.

Hughes. C. M (2008) conducted a double-blind randomized controlled clinical trial on reflexology for the treatment of pain in people with multiple sclerosis. The objective of this study was to investigate the effectiveness of reflexology on pain in Multiple Sclerosis population. The researcher randomly allocated 73 participants to receive reflexology weekly for 10 weeks. The primary outcome measure recorded pain using a Visual Analogue Scale (VAS). Significant decreases were also observed for fatigue, depression, disability, spasm and quality of life. In conclusion, treatment offers clinically significant improvements for Multiple Sclerosis symptoms via a possible placebo effect or stimulation of reflex points in the feet using non-specific massage.

Anderson. P. G (2014) conducted a single –blind, placebo-controlled study on foot massage technique for insomnia. The study involving 84 CABG patients found that deep effleurage and friction are improving sleep quality. In this study the researcher concluded that performing foot massage on meridian points on the both toes for 3-6 days improved sleep quality among post CABG patients.

Lee. Y. M (2009) conducted a quasi experimental study among coal workers by using pre and post test design in a non equivalent control group to determine the effects of foot massage in fatigue and insomnia in experimental group of twenty nine and the control group of thirty patients suffering from pneumoconiosis. Foot massage was performed for 60 minutes twice a week through five weeks to the experimental group but not in the control group. Fatigue was evaluated by fatigue symptoms inventory and insomnia with the insomnia assessment scale. A result showed that there was a significant decrease in scores of fatigue and insomnia in experimental group but not in control group.

Ferrel. T (2009) stated that massage stimulates the cutaneous mechano-receptors that activate large primary afferents. Among which foot and facial massage are the most widely used complementary therapy in nursing practice. Massage is one way of communication by the nurse and the patients through caring with the principle of touch and which is the central role of nurses in healing process. So foot massage is an extended form of touch, which results in mutual energy exchange. It soothes pain and produces relaxation. Foot massage increases pain threshold and therefore modifies an individual perception of pain, nausea and relaxation when measured with visual analogue pain scale.

Tanya Asnes (2010) stated in American Massage Therapy Association survey, almost a quarter of all adult Americans had at least one massage in the previous year. And, they have a wide range of reasons for doing so. More and more people especially baby boomers recognize the health benefits of massage. They choose many massage styles to get relief from symptoms or to heal injuries, to help with certain health conditions, and to promote overall wellness. Among these Swedish massage, facial massage and foot reflexology/ foot massage are most common.

Liza Blau (2014) stated that foot massage can promote health and well-being. According to Chinese medicine, most of the sensory nerves of internal organs are in feet. During a reflexology session, the practitioner will use foot as a detailed body map, and treat any health ailments by using massage and pressure on the meridian points that correspond to specific organs, purportedly sending energy to them. Both reflexology and traditional foot massage have been shown to promote psychological and physical health.

Terence Vanderheiden (2010) conducted a randomized controlled trial on foot massage. Reflexology and acupressure have been used as complementary therapies with traditional medical treatments in patients, who have cancer. The subject in the study was 435 cancer patients. Cancer patients experience many changes in their body and mind. The result shows many benefits of foot massage such as decreased anxiety, pain intensity, nausea, vomiting and fatigue in patients with cancer.

Janice Post-White, et.al., (2012) conducted a randomized, prospective, two period, crossover intervention study. The authors tested the effects of foot massage (FT) and healing touch (HT), in comparison to presence alone or standard care, in inducing relaxation and reducing symptoms in 230 subjects. Complementary therapies are increasingly used to reduce side effects of cancer treatment, without evidence for their effectiveness. Foot massage and healing touch lowered blood pressure, respiratory rate (RR), and heart rate (HR). Foot massage lowered anxiety and healing touch lowered fatigue, and both lowered total mood disturbance. Pain ratings were lowered after foot massage and healing touch, with 4-week no steroidal anti-inflammatory drug was less during foot massage. There were no effects on nausea. Presence reduced respiratory rate (RR) and heart rate (HR) but did not differ from standard care on any measure of pain, nausea, mood states, anxiety, or fatigue. Foot massage and healing touch are more effective than presence alone or standard care in reducing pain, mood disturbance, and fatigue in patients receiving cancer chemotherapy.

Swathy Prashar (2013) conducted a randomized controlled trial to examine the effects of foot reflexology massage on anxiety in patients following CABG surgery. In this, 80 patients who met the inclusion criteria were conveniently sampled and

randomly allocated to the experimental and control groups. On the days following surgery, the experimental group received foot reflexology massage on their left foot 20 minute a day for 4 days, while the control group was given a gentle foot rub with oil for one minute. The researcher concluded that a significant decrease in anxiety in the experimental group following the foot reflexology massage.

Amareesh Yadhav (2009) conducted a comparative study to differentiate the amount of benefit of foot massage and reflexology on physiological and psychological changes during menopause. Researcher compared reflexology to foot massage, there was no difference in the amount of benefit of either one in helping with the symptoms of menopause. Both reflexology and foot massage helped to decrease anxiety, depression, hot flashes and night sweats in women during menopause.

Smyth. S (2009) conducted a study to assess the immediate effect of five minutes foot massage among patients in critical care. A total of 35 patients were selected by purposive sampling technique at centre for research in primary and community care. Data collected through observational schedule and intervention on 5 minutes foot massage was performed. Results of the study showed that there was a significant decrease in heart rate, blood pressure and respiration during foot massage in intervention group.

Nahid Zargar (2012) conducted a study to invest the efficacy of reflex therapy in relieving pain and anxiety among post operative patients with gastric cancer. A total of sixty one patients were randomly allocated to an intervention (n=30) or

control (n=31) group. Experimental group received the usual pain management and 20 minutes of foot reflexotherapy during postoperative days1, 2, 3, and 4 where the control group received usual pain management. Results had shown less pain ($P < .05$) and anxiety ($P < .05$) by the intervention group compared with the control group. Patients in the intervention group received significantly less opioid analgesics than the control group.

Literature Related to Effect of Foot Massage on Post Operative Pain and Sleep Among Abdominal Surgery Patients

Lamasery (2010) conducted an experimental study to determine the effect of foot massage in patients with post operative pain after abdominal surgery at All India Institute Of Medical Science in New Delhi. The sample size was 60 patients and they were randomly divided into two group. The findings of the study revealed that there is a significant decrease of requirement and quantity of drugs and pain score in group I in comparison with group II. The study concludes that there is a positive correlation between the foot massage and post operative pain.

Chanif Wimonrat (2009) conducted a study aimed to examine the current state of knowledge regarding foot massage to determine if foot massage has an effect on relieving acute postoperative pain. The questions were used to guide this review: The gate control system in the dorsal horn is activated through the inhibitory interneuron, thus closing the gate. Subsequently, the brain does not receive the pain message. Eight reviewed studies demonstrated that foot massage relieves acute postoperative pain.

Wang. H. L (2012) conducted a study on physiological responses to pain create harmful effects that prolong the body's recovery after abdominal surgery. A

convenient sample of 18 patients rated pain intensity and pain distress using 0 to 10 numeric rating scale. They reported decreased in pain intensity from 4.65 to 2 and pain distress from 4.00 to 1.88. The patients experienced moderate pain after they received pain medications. This pain was reduced by the intervention, thus supporting the effectiveness of foot and hand massage in postoperative pain management. The result of the study is foot and hand massage appears to be an effective, inexpensive, low-risk, flexible, and easily applied strategy for pain management in post abdominal surgery client.

Kim. D. H (2008) conducted a non-equivalent control group pretest post test quasi-experimental study to examine the effect of foot massage on pain and sleep disturbance among patients with gastrectomy in Netherlands. The subjects in this study were 50 post surgical patients who are admitted in different hospitals in the same region. Each group where organized with 25 subjects respectively and foot massage was provided at each morning for four days, 20 minutes per session. The study shows that there is significant difference in level of pain and sleep disturbance among patients undergone gastrectomy.

Liao. W. C (2011) conducted an observational study on sleep variations through the course of recovery from major surgeries among 30 post operative patients. Sleep disturbance persist over the course of recovery in major surgery are associated with individual, physiological, psychological, and environmental factors. Findings suggest that management of major symptoms and control of the patient's sleeping environment during hospitalization and at early recovery stage as well as mental healthcare after discharge may improve sleep quality and recovery in major surgery patients.

Pasvogel. A (2009) conducted a study to assess the effectiveness of preoperative foot massage on intra and post operative outcome in 105 females, who had undergone a laparoscopic abdominal surgery. The result showed that 30 minute foot massage in experimental group received significantly less intra operative narcotics.

Mitchinson. A. R (2009) conducted a randomized controlled trial on foot massage for two hundred and five patients undergone abdominal surgery. Foot massage therapy to improve pain management and postoperative anxiety among many patients who experience unrelieved postoperative pain after abdominal surgery. Patients were assigned to the following 2 groups, control (routine care), and individualized attention from foot massage to experimental group (20 minutes each evening for up to 5 postoperative days. Compared with the control group, patients in the foot massage group experienced long-term decreases in pain intensity, pain unpleasantness and anxiety. The result of foot massage is an effective and safe therapy for the relief of acute postoperative pain in patients undergoing major operations.

Lee. J (2011) conducted a systematic review of foot massage on fatigue, sleep and pain among abdominal surgery patients. Forty four studies were eligible including 15 studies associated with fatigue, 18 with sleep, 11 with pain and the effect of foot massage were analyzed using comprehensive meta-analysis. This meta-analysis indicates that foot massage is an useful nursing intervention to relieve fatigue and to promote sleep.

Conceptual Framework

A Conceptual Framework is a visual or written product, one that 'explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables and the presumed relationships among them' Miles and Huberman (1994).

A Framework is a structure for supporting or enclosing something, especially a skeletal support used as the basis for something being constructed.

Concept is a thought frame or mental image framed in mind in response to learning something new. A framework is a basic structure supporting anything. A conceptual framework deals with abstraction, which is assembled by nature of their relevance to a common theme (Christenson, 1990).

Conceptual framework is a theoretical approach to study of problems that are scientifically based and emphasis the selection, arrangement and classification of the concepts. Selecting a nursing conceptual framework helps the researcher to identify the problems that are significant to the discipline of nursing (Bailey, 1991).

One of the important functions of conceptual frame work is to communicate clearly the interrelationship of various concepts. It guides an investigator to know what data needs to be collected and give direction to the entire research process (Kerlinger, 1993).

Bethel Ann Powers (2006) describes conceptual framework as a set of inter-related concepts that symbolically represents and conveys a mental image of a phenomenon. The conceptual framework selected for this study was modified based on Wiedenbech's Helping Art of Clinical Nursing Theory (1964).

According to Wiedenbech, nursing practice consists of identification (identifying need for help), ministration (ministration of needed help) and validation (validating that the need for help was met).

Identification

- Identification determines a patient's need for help based on the existence of a need. Whether the patient realizes the need and whether the patient has met the need and whether the patient cannot meet the needed help alone.
- In this study, the abdominal surgery patients need has been identified through pre – test assessment score of post-operative pain and sleep and assessment of demographic variables.

Ministration

- It refers to the provision of needed help.
- In this study, the abdominal surgery patients needed to be administered with foot massage.

Validation

- It refers to collection of evidence that shows patient's needs have been met and his functional activity has been restored due to direct result of the nurse's action.
- In this study, through numerical pain intensity scale and Clerk's modified sleep assessment scale, it was proved that post-operative pain was reduced and sleep was improved among abdominal surgery patients.

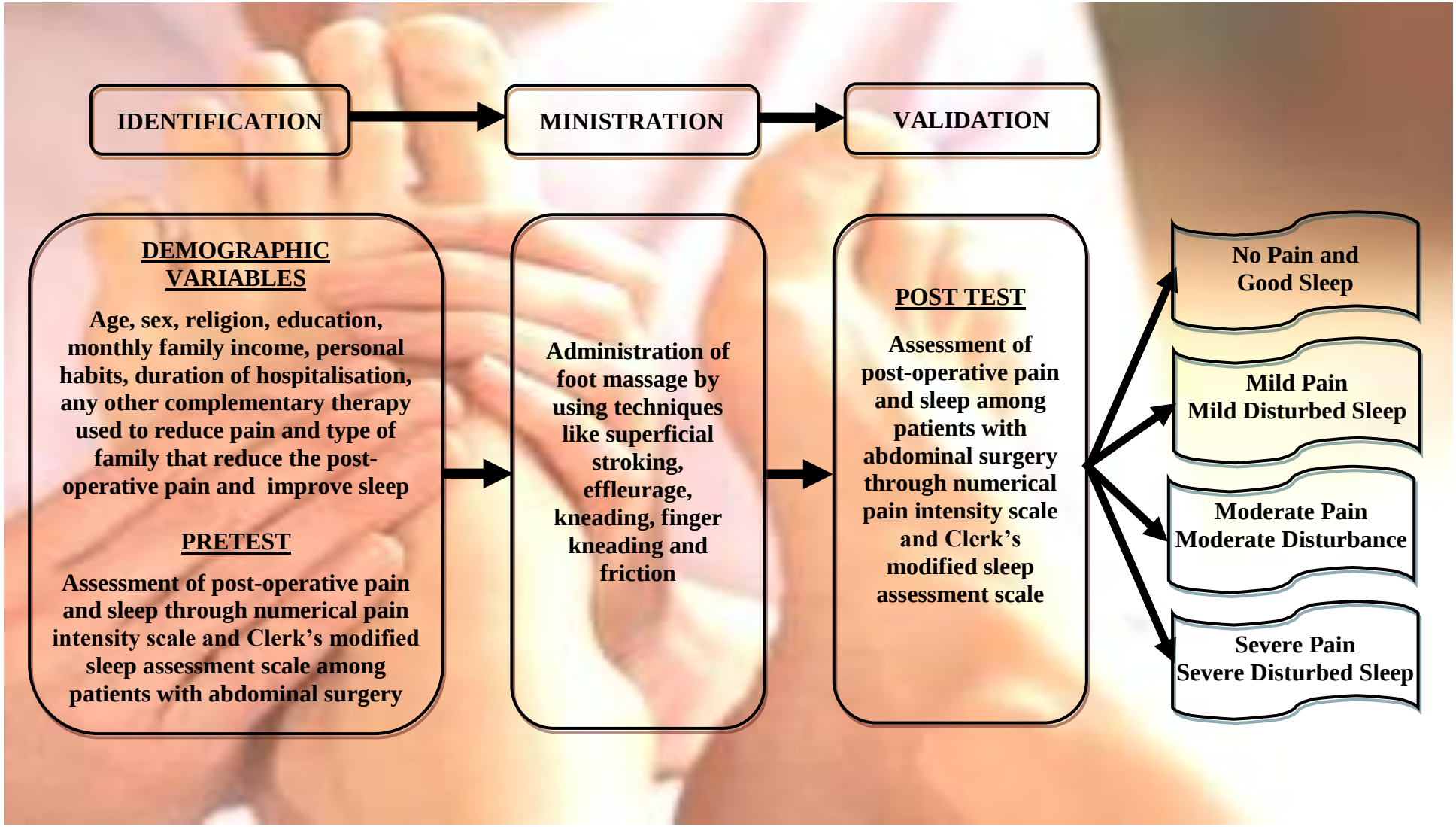

Figure. 1 Modified Framework Based on Wiedenbach's Helping Art of Clinical Nursing Theory (1964)

CHAPTER - III

Methodology

This chapter consists of research approach, research design, setting of the study, population, sample size, sampling technique, criteria for the selection of the sample, description of tool, content validity, reliability, procedure of data collection and plan for data analysis.

Research Approach

Quantitative research approach was selected to assess the effectiveness of foot massage on level of post operative pain and sleep among patients with abdominal surgery.

Research Design

Pretest post test control group design as a sub type of quasi experimental research design was adopted for present study.

E	O_1	x	O_2
C	O_1		O_2

C - Control group

E - Experimental group

O_1 - Pre test assessment

X - Intervention (Foot massage)

O_2 - Post test assessment

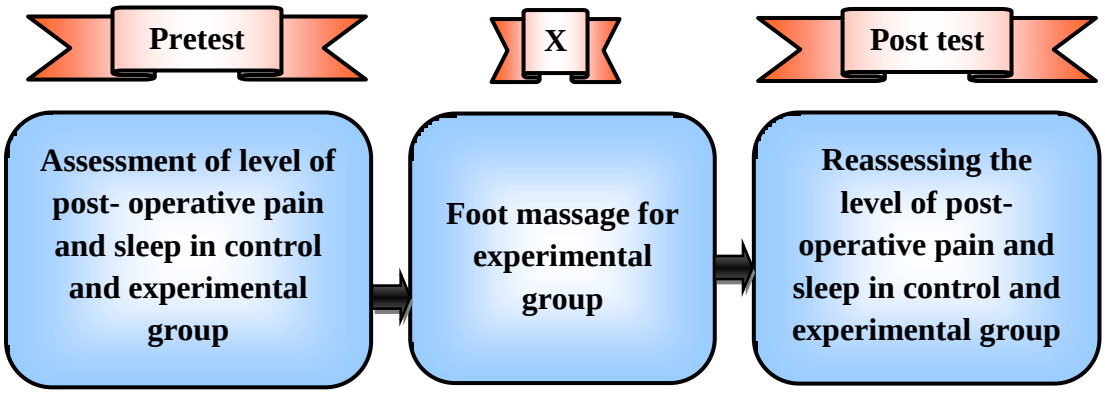

Figure. 2 The Schematic Representation of Research Design

Setting of the Study

The study was conducted among patients with abdominal surgery in Ashwin hospital at Coimbatore. It is a 350 bedded multispecialty hospital, which is situated 7 Kilometers away from PPG College of Nursing.

Variables

Independent variable was foot massage and the dependent variables were the level of post-operative pain and sleep among abdominal surgery patients. The influencing variable were demographic variables such as age in years, sex, religion, education, occupation, family income, personal habits, duration of Hospitalisation, any other complementary therapy, type of family.

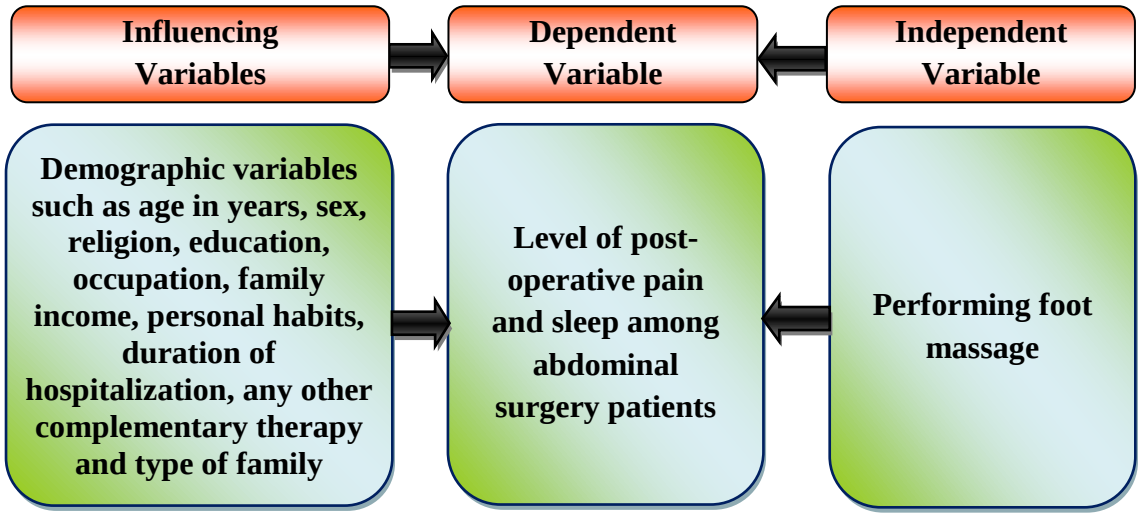

Figure. 3 The Schematic Representation of Variables

Population

The accessible population of the study constitutes all the patients who were undergone abdominal surgery in Ashwin Hospital at Coimbatore.

Sample Size

The sample size for the present study is 40, out of which 20 belong to Control group and 20 belong to Experimental group.

Sampling Technique

Non probability convenient sampling technique was adopted for the present study.

Criteria for the Selection of Samples

Inclusion Criteria

- Abdominal surgery patients who are in age group between 21-61 years and above.
- Both male and female who underwent abdominal surgery for first time.
- Patient's undergone abdominal surgery through open laprotomy.
- Abdominal surgery patients who were able to understand Tamil or English.

Exclusion Criteria

- Abdominal surgery patients who are suffering with skin disorder.
- Patients who are having lower limb fracture associated with abdominal surgery.

- Abdominal surgery patients who have altered sensory perception.
- Abdominal surgery patients with systemic disorders and receiving immuno suppressive drugs.

Description of the Tool

The researcher has developed a tool after reviewing the literature to assess the level of post- operative pain and sleep. It has three sections.

Section – A Demographic Variables

Demographic variables which include age in years, sex, religion, education, occupation, family income, personal habits, duration of hospitalization, use of any other complementary therapy, type of family.

Section – B Numerical Pain Intensity Scale to Assess the Level of Post – Operative Pain Among Patients with Abdominal Surgery:

Numerical pain intensity scale is used to assess the level of post-operative pain on the first day before foot massage and assess the pain level on the 4th day of foot massage. Numerical pain intensity scale is a movable scale containing the pain score from 0-10. The division of the scale expressed the pain level in ascending order in which the level 0 indicates no pain, 1-3 mild pain, 4-7 moderate pain, 7-10 the pain level is at its worst point. The patient will be asked to indicate the pain intensity as they experience at the moment by marking at the point. The reading was noted based on the point at which the patient marked.

Interpretation of Level of Post – Operative Pain

0	- No Pain
1-3	- Mild Pain
4-7	- Moderate Pain
>7	- Severe Pain

Section – C Clark's Modified Sleep Assessment Scale

Clark's modified sleep assessment scale is a table consists of 10 questions. Each questions was assessed by using modified Likert Scale which has 5 options, according to the severity, the score was given as 0, 1, 2,3and 4. If the score was 0-sleep not disturbed at all, 1-a little bit, 2-moderately disturbed , 3-quite a bit and 4-extremely disturbed.

Total Score

Good sleep	- 0-10
Mild disturbance	- 11-20
Moderate disturbance	- 21-30
Severe disturbance	- 31-40

Testing of the Tool

Content Validity

The tool was given to five experts in the field of nursing and medicine for content validity. All comments and suggestions given by the experts were duly considered and corrections were made.

Reliability

Reliability of tool was obtained by Spearman Brown split half technique. The reliability of Clark's modified sleep assessment scale was 0.92

Pilot Study

Pilot study was conducted to make sure that the tool was capable of eliciting response from the respondents. Pilot study was conducted among 4 abdominal surgery patients with post – operative pain and sleep, 2 samples were selected as control group and 2 samples were selected as experimental group. The study was conducted in Ashwin Hospital at Coimbatore for a period of one week. The pilot study revealed that the present study was feasible to conduct.

Data Collection Procedure

The formal permission was obtained from medical director of Ashwin hospital, to conduct the study. Confidentiality and anonymity of the subject was maintained. The study was carried out for a period of one month from 01-01-2014 to 31-01-2014. The samples were selected by using non probability convenient sampling technique on the basis of selection criteria. The purpose and duration of the study were explained to the samples to obtain their co-operation and informed consent was taken from the respondent. Among 40 samples, 20 samples were considered as experimental group and remaining 20 samples as control group.

The abdominal surgery patients who were selected for the control group were assessed for level of post – operative pain and sleep on the immediate post – operative day and routine care was given. On 4^{th} post- operative day the level of post –

operative pain and sleep was reassessed by using same numerical pain intensity scale and Clark's modified sleep assessment scale. The demographic variables are collected by using structured interview schedule.

The abdominal surgery patients selected for the experimental group were assessed for level of post – operative pain and sleep on the immediate post – operative day before foot massage by using numerical pain intensity scale and Clark's modified sleep assessment scale. Then foot massage was given to the patient daily for 20 minutes, at morning for 4 days. At the end of the 4^{th} post – operative day post test was conducted by using the same rating scales.

Plan for Data Analysis

Data was analyzed by using descriptive and inferential statistics. Demographic variables were analyzed by using frequency and percentage. The effectiveness of foot massage was analyzed by using independent 't' test, paired 't' test. Association between the demographic variables and the level of post – operative pain and sleep were analyzed by chi-square test.

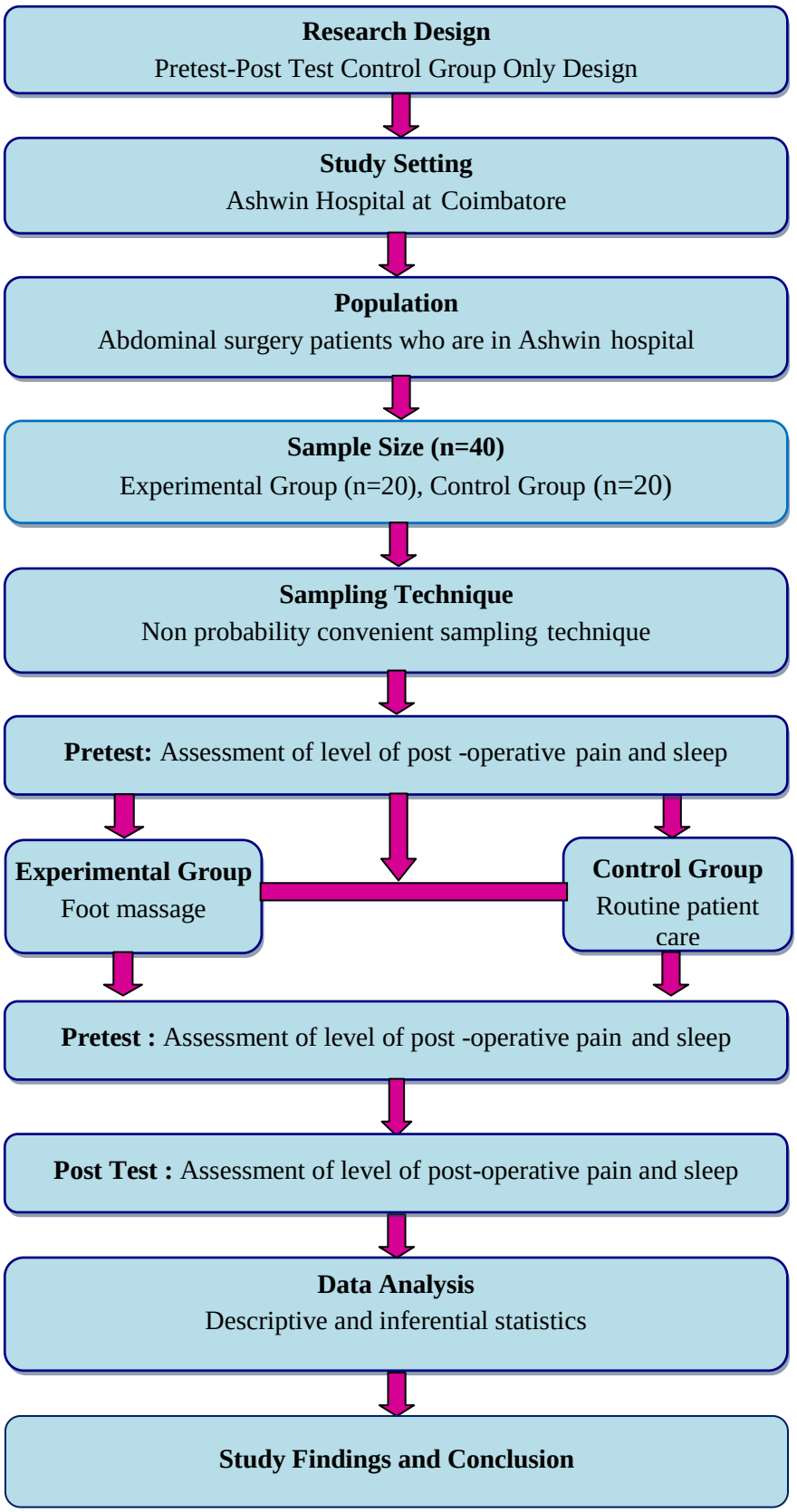

Figure. 5 The Overall View of Research Methodology

CHAPTER - IV

Data Analysis and Interpretation

This chapter deals with analysis and interpretation of the data collected from abdominal surgery patients, to assess the effectiveness of foot massage on level of post- operative pain and sleep. The finding of this study is based on the descriptive and inferential statistics analysis was presented under the following findings.

Section – I : Description of demographic variables of the patients subjected to abdominal surgery in control group and experimental group.

Section – II : Description of statistical values of level of post-operative pain in control group and experimental group.

a) Description of Pretest and post test pain score of subjects in experimental group.

b) Comparison of post operative pain score in control group and experimental group before performing foot massage.

c) Comparison of post- operative pain score in control group and experimental group after performing foot massage.

Section – III : Description of statistical values of post-operative sleep score in control group and experimental group.

a) Description of Pretest and post test sleep score of patient with abdominal surgery in experimental group.

b) Comparison of sleep score in control group and experimental group before performing foot massage.

c) Comparison of sleep score in control group and experimental group after performing foot massage.

Section IV : Association of selected demographic variables with pre test post-operative pain score

a) Association of selected demographic variables with pre test post-operative pain score in control group and experimental group.

b) Association of selected demographic variables with pre test post-operative sleep score in control group and experimental group.

SECTION – I

Table. 1 Description of Demographic Variables of the Patients Subjected to Abdominal Surgery in Control Group and Experimental Group

S.No.	Demographic Variables	Control Group (n = 20)		Experimental Group (n = 20)	
		f	%	f	%
1.	**Age**				
	a) 21-30years	10	50	11	55
	b) 31-40years	2	10	2	10
	c) 41-50years	4	20	3	15
	d) 51-60years	2	10	3	15
	e) 61 and above	2	10	1	5
2.	**Sex**				
	a) Male	6	30	6	30
	b) Female	14	70	14	70
3.	**Religion**				
	a) Hindu	15	75	13	65
	b) Christian	5	25	5	25
	c) Muslim	0	0	2	10
4.	**Education**				
	a) Illiterate	4	20	2	10
	b) Primary	14	70	10	50
	c) Secondary	1	5	7	35
	d) Higher secondary	1	5	0	0
	e) Graduate	0	0	1	5

(Table 1 continues)

(Table 1 continued)

S.No.	Demographic Variables	Control Group (n = 20)		Experimental Group (n = 20)	
		f	%	f	%
5.	**Occupation**				
	a) Student	0	0	1	5
	b) Unemployed	15	75	12	60
	c) Self	2	10	2	10
	d) Labor	3	15	5	25
	e) Office worker	0	0	0	0
6.	**Family income**				
	a) ₹. 2001-5000	1	5	5	25
	b) ₹. 5001 – 10,000	7	35	3	15
	c) ₹. 10,001 and above	12	60	12	60
7.	**Personal habits**				
	a) Smoking	3	15	2	10
	b) Tobacco chewing	2	10	5	25
	c) Alcoholism	0	0	0	0
	d) Drug abuse	0	0	0	0
	e) None	15	75	13	65
8.	**Duration of Hospitalization**				
	a) 7 days	19	95	19	95
	b) > 7 days	1	5	1	5
9,	**Other complementary therapy**				
	a) Heat application	0	0	0	0
	b) Moist ice pack	0	0	0	0
	c) TENS	0	0	0	0
	d) None	20	100	20	100
10.	**Type of family**				
	a) Nuclear	14	70	14	70
	b) Joint	6	30	6	30

Table 1 shows the description of demographic variables of control group and experimental group.

- Among the respondents, 10(50%) were between the age group of 21-30 years, 2(10%) were between the age group of 31-40 years, 4(20%) were between the age group of 41-50 years, 2(10%) were between the age group of 51-60 years, 2(10%) were between the age group of 61 years and above in control group. 11(55%) were between age group of 21-30 years, 2 (10%) were in age group of 31-40 years, 3(15%) were between age group of 41-50 years, 3(15%) were between age group of 51-60 years and 1(5%) was between age group of 61 and above in experimental group.

- Regarding sex, 6(30%) were males, 14(70%) were females in control and experimental group.

- About religion, 15(75%) were Hindus, 5(25%) were Christians in control group, 13(65%) were Hindus, 5(25%) were Christians, 2(10%) were Muslims in the experimental group.

- With regard to educational status of the abdominal surgery patients 4(20%) were illiterate, 14(70%) had primary education, 1(5%) had secondary education, 1(5%) had higher secondary education, 2(10%) were illiterate, 10(50%) had primary education, 7(35%) had secondary education, 1(5%) had graduate education in experimental group.

- Regarding occupation, none of them were students, 15(75%) were unemployed, 2(10%) were self employed, 3(15%) were labors, none of them was office worker in the control group, 1(5%) was student, 12(60%) were unemployed, 2(10%) were

self employed, 5(25%) were labors; none of them were office worker in the experimental group.

- While considering family income, 1(5%) was between the amount of ₹. 2001-5000/-, 7(35%) were between the amount of ₹. 5001-10000/-, 12(60%) were 10001 and above in control group.5 (25%) were between the amount of ₹. 2001-5000/-3(15%) were between the amount of ₹. 5001-10000/-, 12(60%) were ₹. 10001 and above in experimental group.

- Regarding personal habits, 3(15%) had smoking habit, 2(10%) had tobacco chewing, none of them were alcoholic, none of them had drug abuse,15(75%) had not having any of these personal habits in control group. 2(10%) had smoking habit, 5(25%) had tobacco chewing, none of them were alcoholic, none of them had drug abuse,13(65%) had not having any of these personal habits in experimental group.

- About duration of hospitalisation19 (95%) were within 7 days, 1(5%) was >7 days in both in the control and experimental group.

- None of them are using any complementary therapy in both control and experimental group.

- While considering type of family 14(70%) were in nuclear family, 6(30%) were in joint family in both control and experimental group.

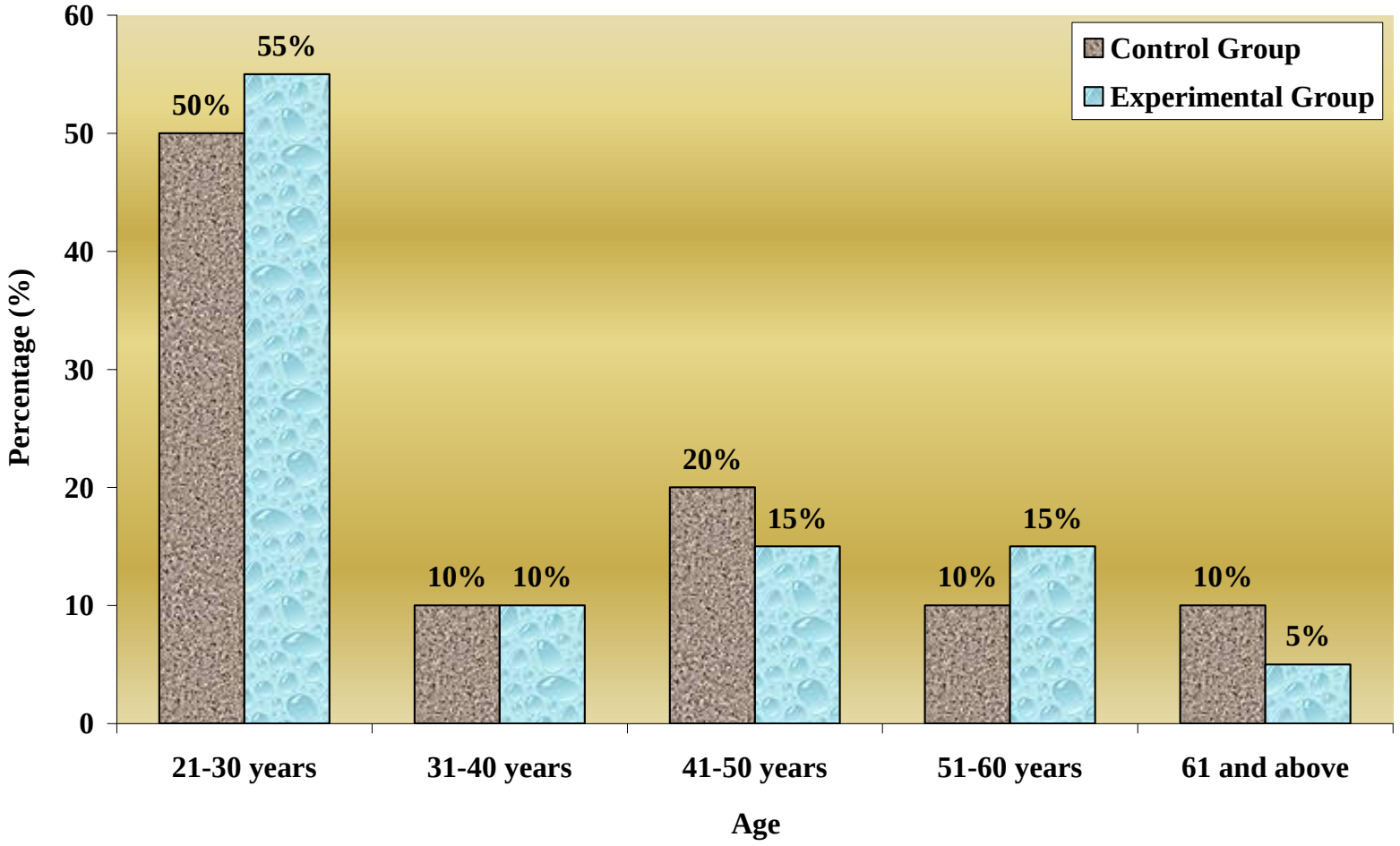

Figure. 5 Distribution of Demographic Variables According to the Age in the Control Group and Experimental Group

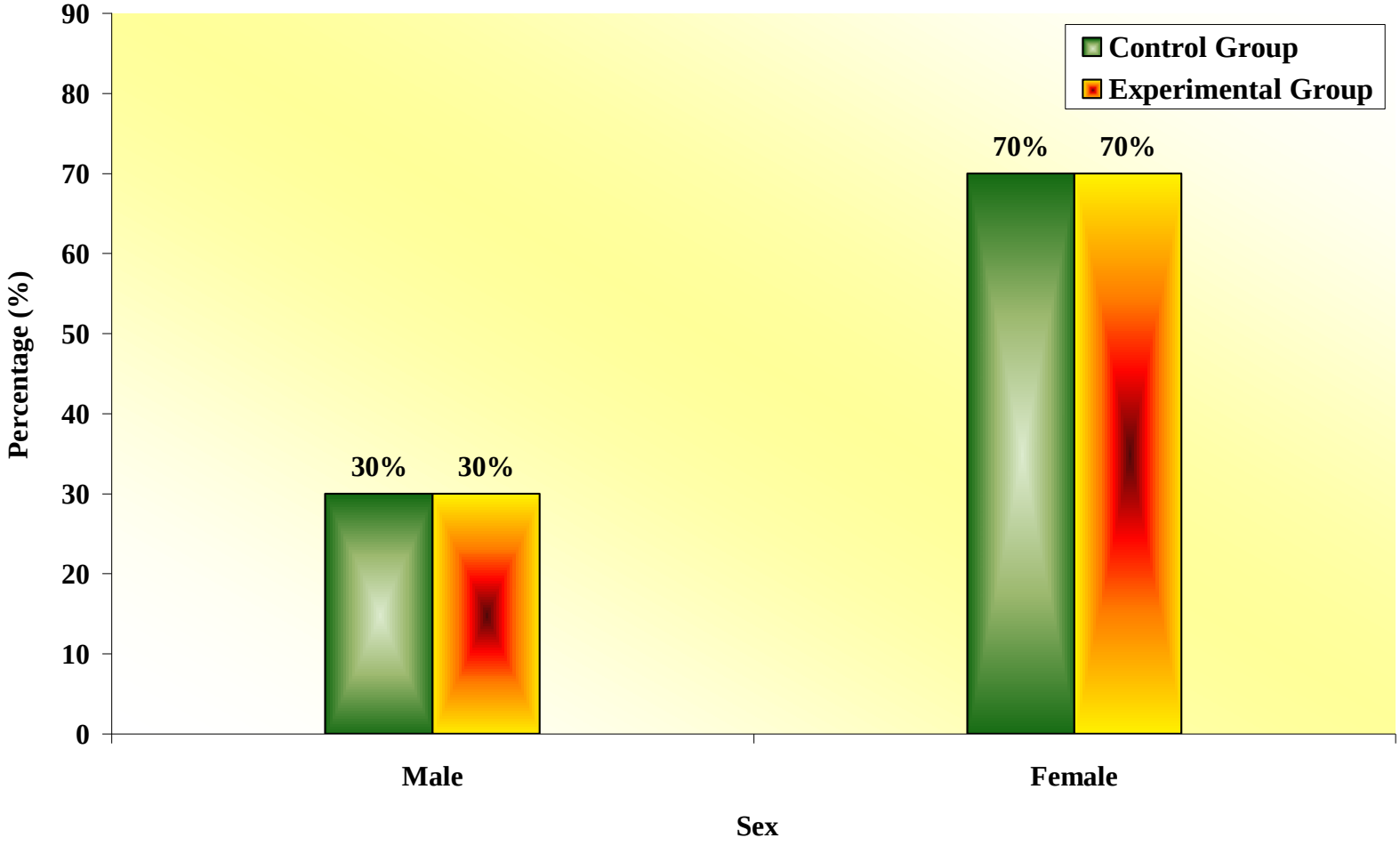

Figure. 6 Distribution of Demographic Variables According to the Sex in the Control Group and Experimental Group

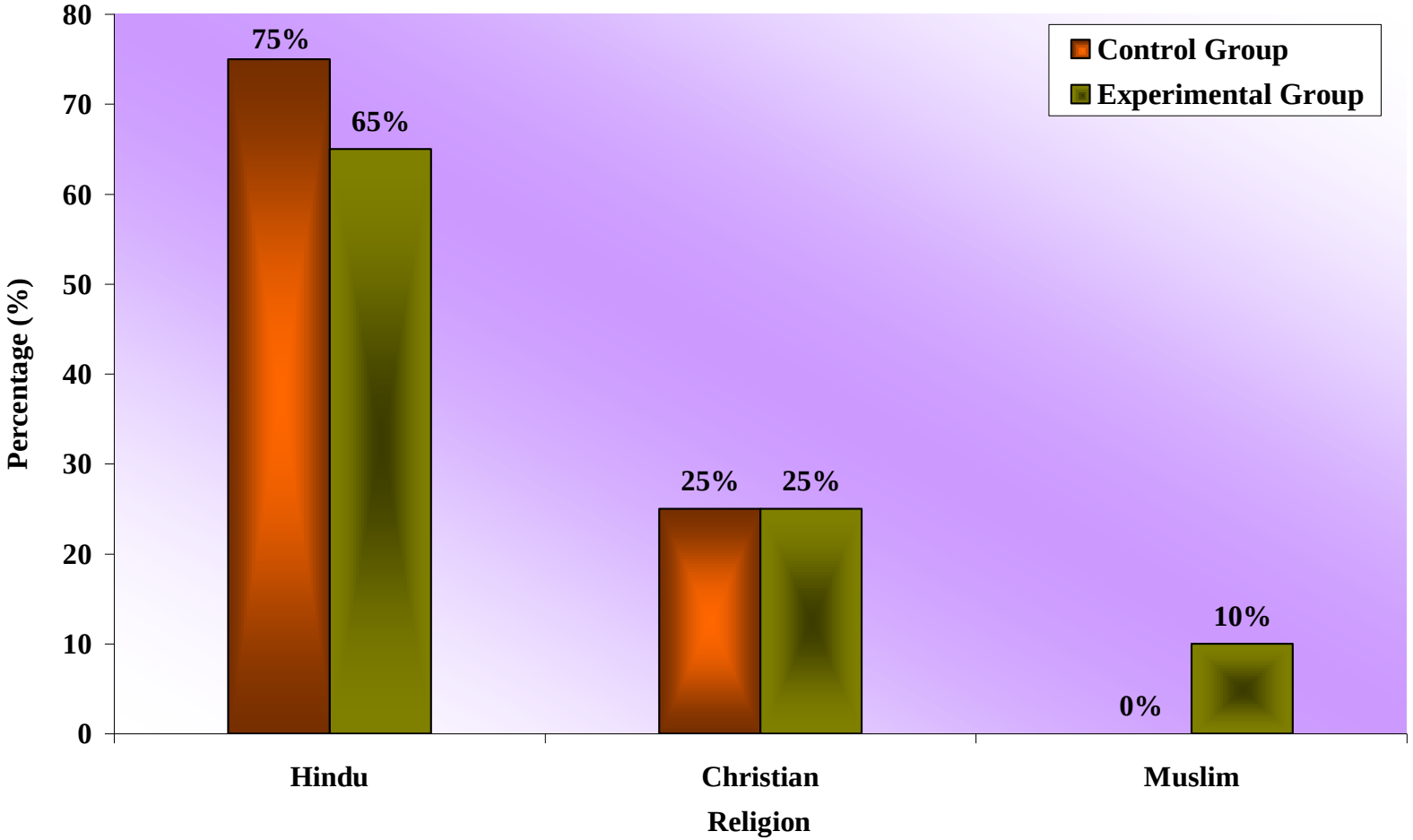

Figure. 7 Distribution of Demographic Variables According to Religion in the Control Group and Experimental Group

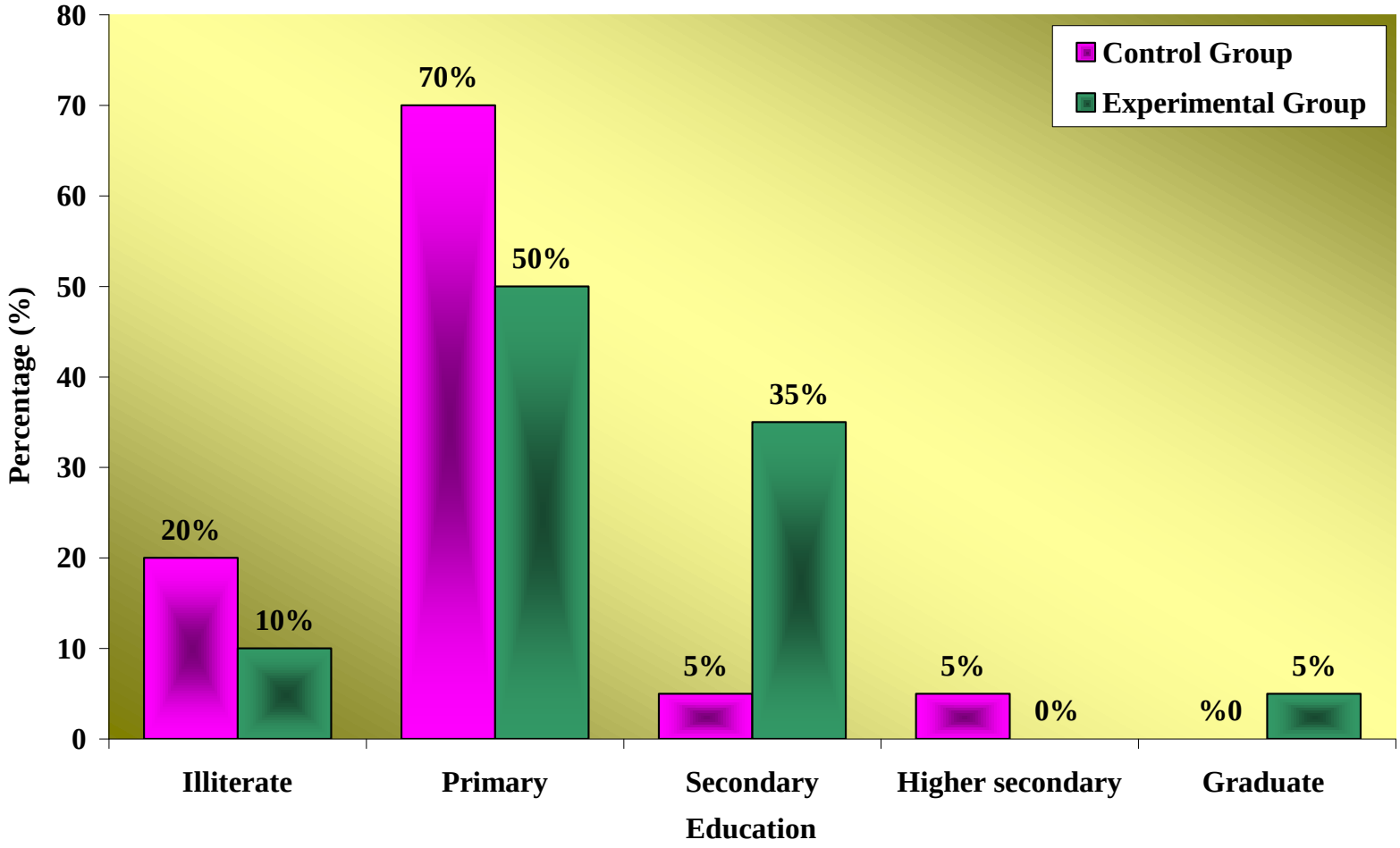

Figure. 8 Distribution of Demographic Variables According to the Education in the Control Group and Experimental Group

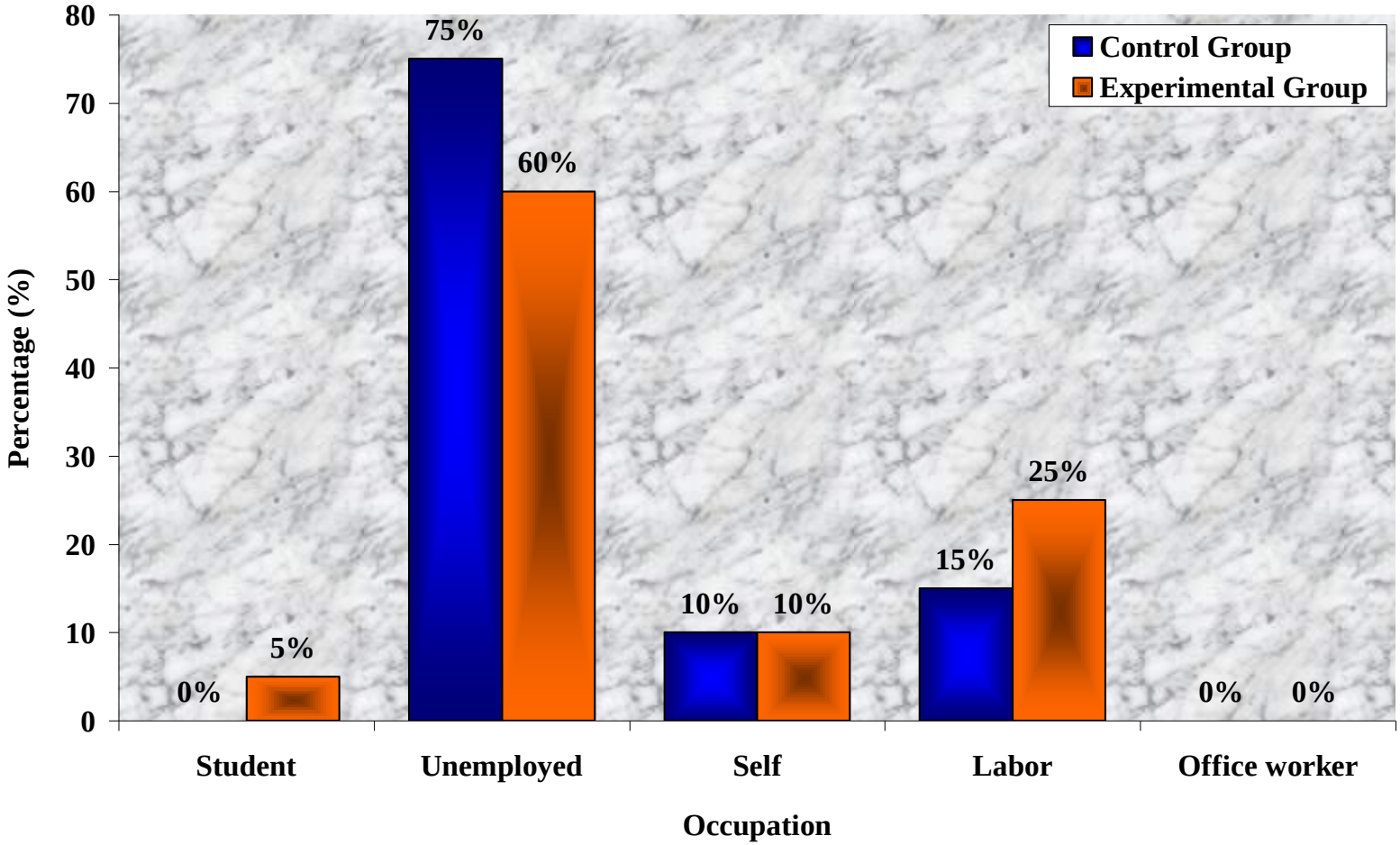

Figure. 9 Distribution of Demographic Variables According to Occupation in the Control Group and Experimental Group

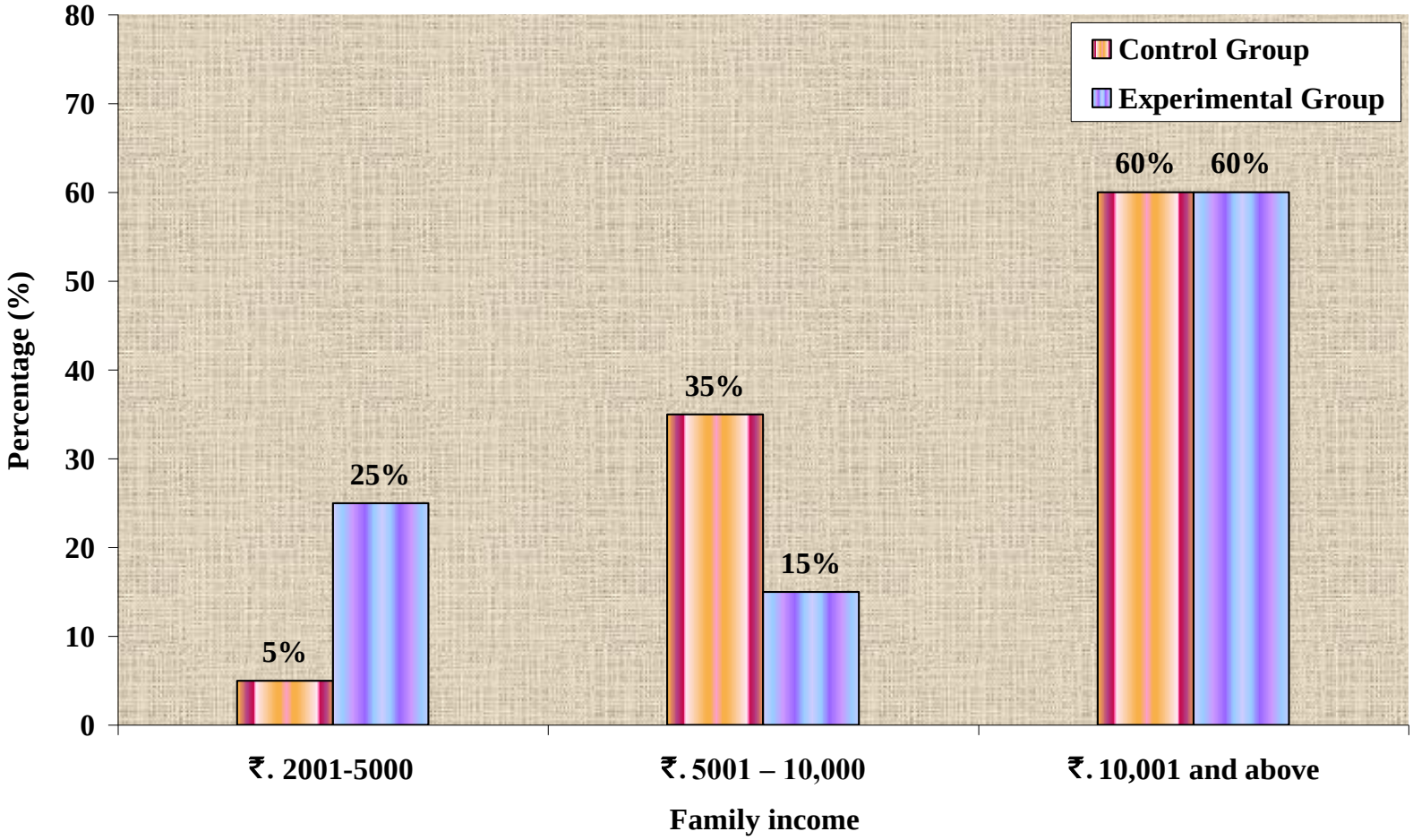

Figure. 10 Distribution of Demographic Variables According to Family Income in the Control Group and Experimental Group

SECTION - II

Table. 2 Description of Pretest and Post Test Pain Score of Subjects in Experimental Group

't' Test for the Mean Difference of Subjects in Experimental Group

(n = 20)

S.No.	Post-Operative Pain Score	Mean	Standard Deviation	't' Value
1.	Pre-test	5.9	1.577	2.95*
2.	Post-test	3.7	1.053	

* Significant

Table 2 shows for 19 degrees of freedom at 0.05 level of significance the calculated 't' value was2.95, which is greater than the table value. Hence there is significant difference existing between pretest and post test post - operative pain score. Based on the findings, the foot massage is an effective intervention on the level of post- operative pain among abdominal surgery patients.

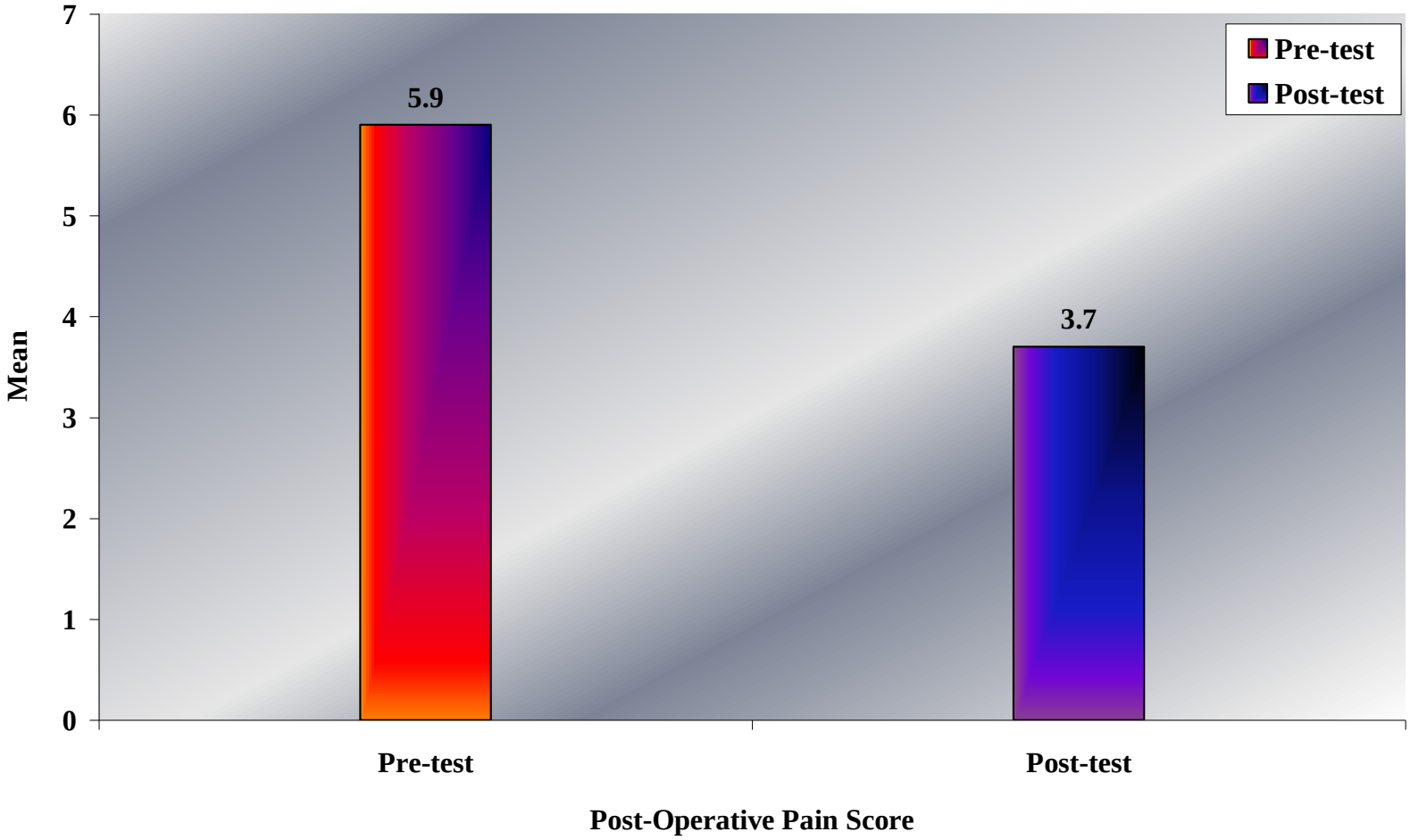

Figure. 11 Description of Pretest and Post Test Pain Score of Subjects in Experimental Group

Table. 3 Comparison of Post Operative Pain Score in Control Group and Experimental Group Before Performing Foot Massage

't' Test for the Mean Difference of Post- Operative Pain Score Between Control Group and Experimental Group

(n = 40)

S.No.	Pretest Score of Post Operative Pain	Mean	Standard Deviation	Table Value	't' Value
1.	Control Group	5.75	1.75	2.021	0.0527
2.	Experimental Group	5.9	1.57		

Table 3 shows for 38 degrees of freedom and at 0.05 level of significance the table value was 2.021 and the calculated value was 0.0527 which is less than the table value. Hence there is no significance difference existing between the control group and experimental group before performing foot massage on the level of post-operative pain. So the homogeneity was maintained between the groups.

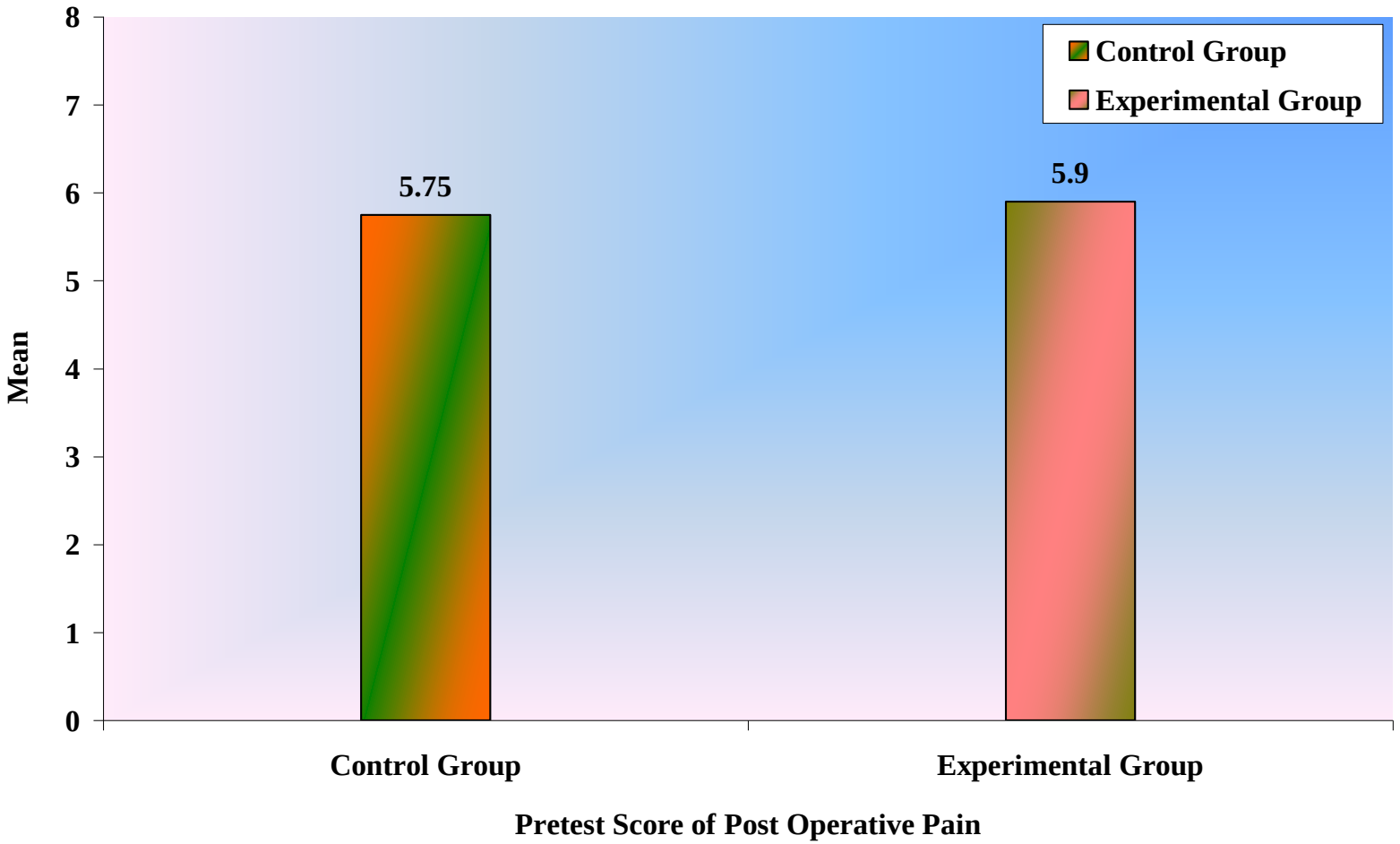

Figure. 12 Distribution of Pretest Mean Score of Post Operative Pain in the Control Group and Experimental Group Before Performing Foot Massage

Table. 4 Comparison of Post- Operative Pain Score in Control Group and Experimental Group After Performing Foot Massage

't' Test for the Mean Difference of Post- Operative Pain Score Between Control Group and Experimental Group

(n = 40)

S.No.	Post Test Score of Post-Operative Pain	Mean	Standard Deviation	Table Value	't' Value
1.	Control Group	7.3	1.34	2.021	2.47*
2.	Experimental Group	3.7	1.05		

* significant

Table 4 shows for 38 degrees of freedom and at 0.05 level of significance, the table value was 2.021 and the calculated value was 2.47, which was greater than the table value and hence there is significant difference existing between the control group and experimental group. It is concluded that the foot massage is effective for reducing level of post- operative pain among abdominal surgery patients.

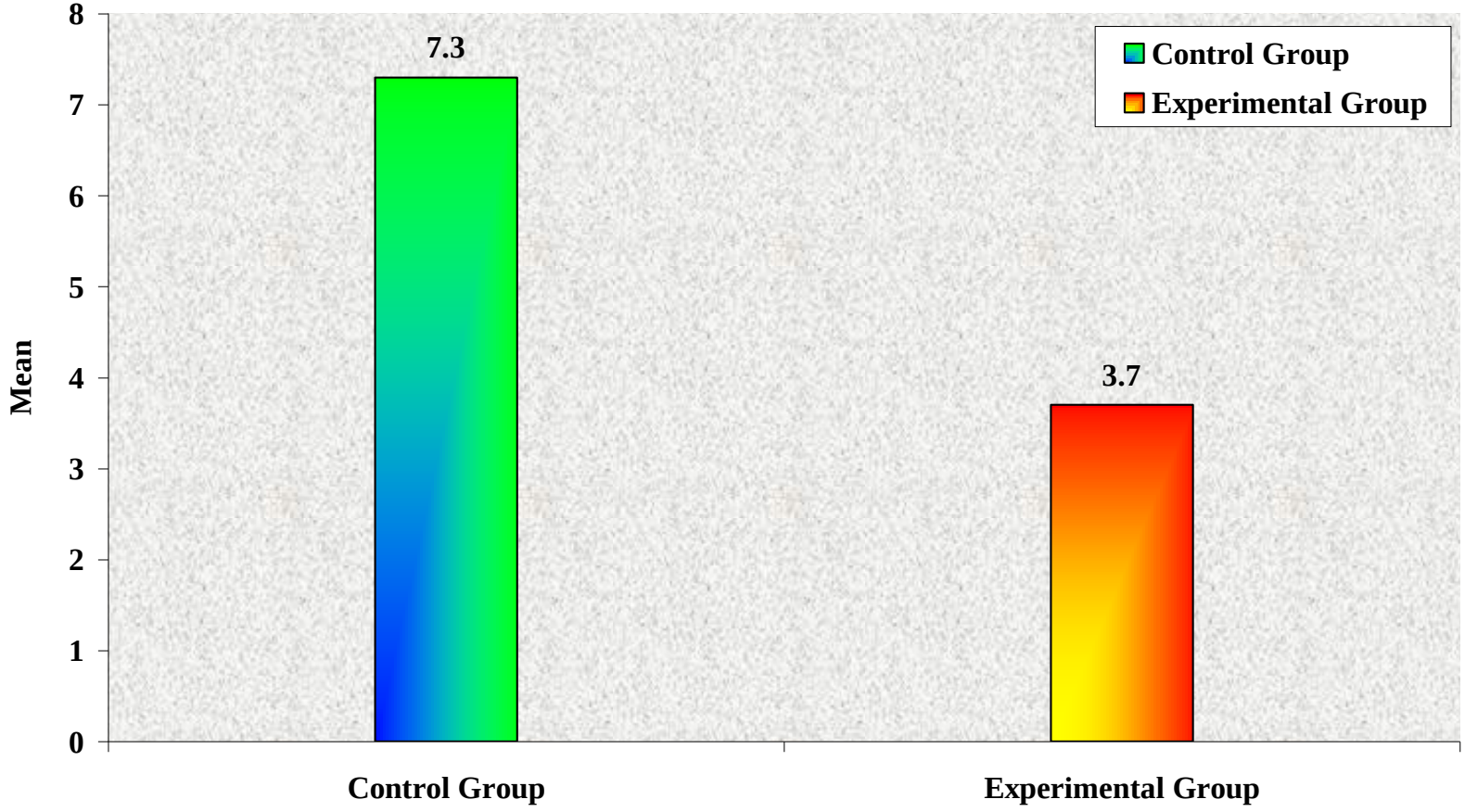

Figure. 13 Distribution of Post Test Mean Score of Post operative Pain in the Control Group and Experimental Group After Performing Foot Massage

SECTION – III

Table. 5 Description of Pretest and Post Test Sleep Score in Experimental Group

't' Test for the Mean Difference of Subjects in Experimental Group

(n = 20)

S.No.	Score of Post-Operative Sleep	Mean	Standard Deviation	't' Value
1.	Pre-test	26.8	4.130	8.74*
2.	Post-test	7	1.67	

* significant

Table 5 shows for 19 degrees of freedom at 0.05 level of significance the calculated 't' value was8.74, which is greater than the table value. Hence there is significant difference existing between pretest and post test value of sleep in post - operatively. Based on the findings, the foot massage is an effective intervention in inducing sleep post- operatively among abdominal surgery patients.

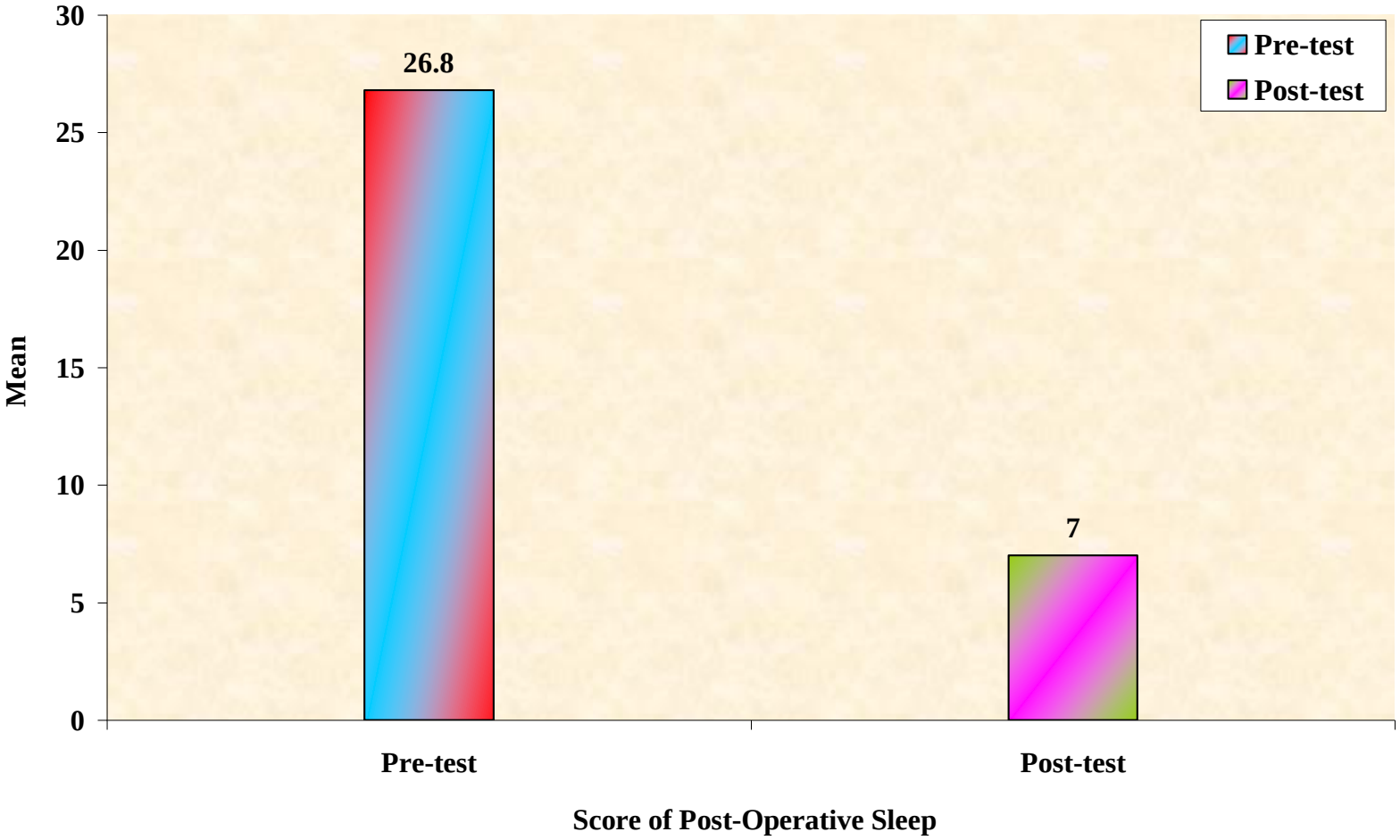

Figure. 14 Description of Pretest and Post Test Sleep Score of Subjects in Experimental Group

Table. 6 Comparison of Post Operative Sleep Score in Control Group and Experimental Group Before Performing Foot Massage

't' Test for the Mean Difference of Post- Operative Sleep Between Control Group and Experimental Group

(n = 40)

S.No.	Pretest Sleep Score	Mean	Standard Deviation	Table Value	't' Value
1.	Control group	21.25	4.15	2.021	0.31
2.	Experimental group	26.8	4.130		

Table 6 shows for 38 degrees of freedom and at 0.05 level of significance the table value was 2.021 and the calculated value was 0.31which is less than the table value. Hence there is no significance difference existing between the control group and experimental group before performing foot massage on improving quality of sleep in post- operatively. So the homogeneity was maintained between the groups.

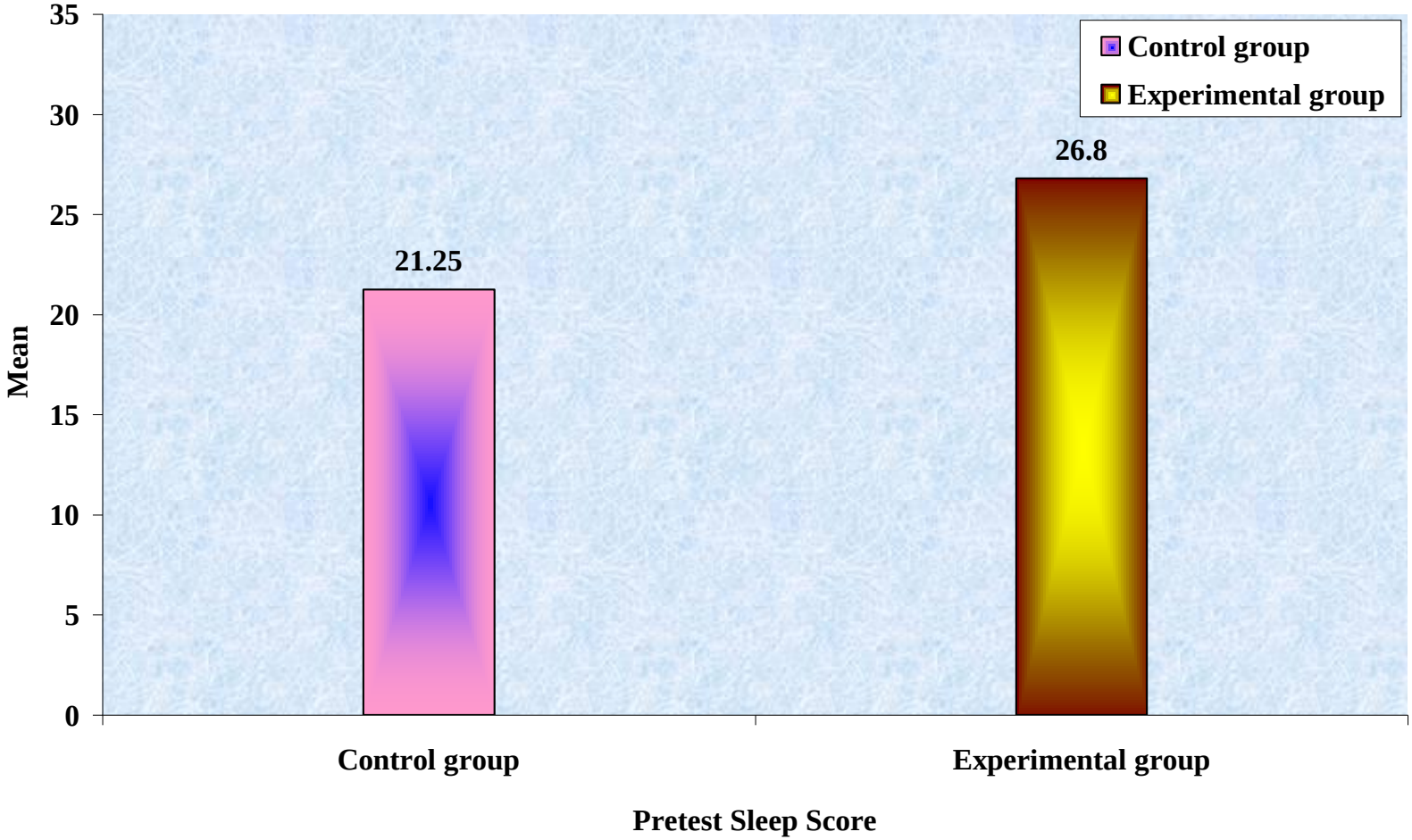

Figure. 15 Distribution of Pretest Mean Score of Post operative sleep in the Control Group and Experimental Group Before Performing Foot Massage

Table. 7 Comparison of Post-Operative Sleep Score in Control Group and Experimental Group After Performing Foot Massage

't' Test for the Mean Difference of Post-Operative Sleep Score Between Control Group and Experimental Group

(n = 40)

S.No.	Post Test Sleep Score	Mean	Standard Deviation	Table Value	't' Value
1.	Control group	32	2.81	2.021	5.18*
2.	Experimental group	7	1.67		

* Significant

Table 7 shows for 38 degrees of freedom and at 0.05 level of significance, the table value was 2.021 and the calculated value was5.18, which was greater than the table value and hence there is significant difference existing between the control group and experimental group. It is concluded that the foot massage is effective for improving quality of sleep post- operatively among abdominal surgery patients.

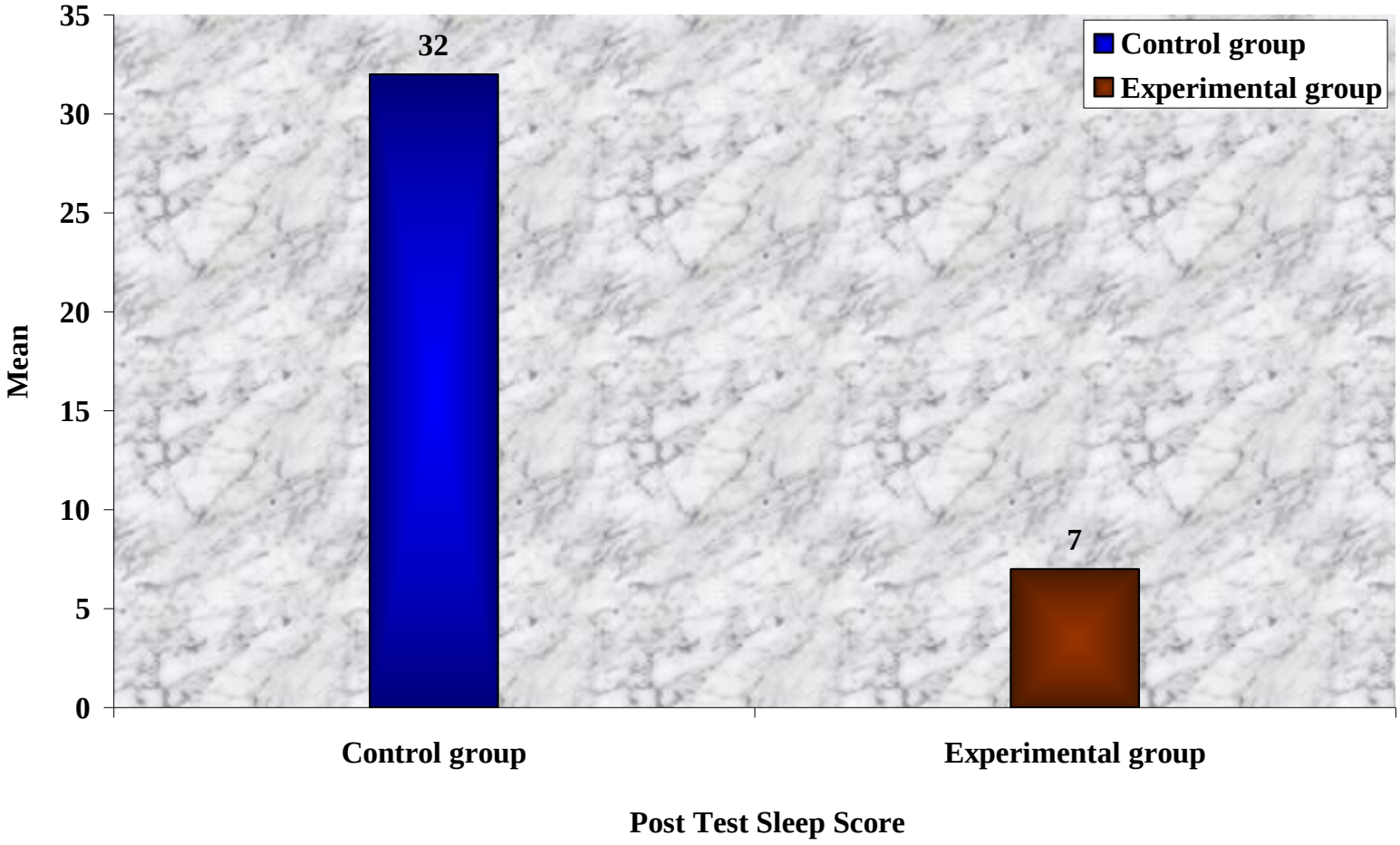

Figure. 16 Distribution of Post test Mean Score of Post Operative Sleep in the Control Group and Experimental Group After Performing Foot Massage

SECTION – III

Table. 8 Association of Selected Demographic Variables with Pretest Scores of Post-Operative Pain in Experimental Group

(n = 20)

S.No.	Demographic Variables	Below Mean	Above Mean	df	χ^2
1.	**Age**				
	a) 21-30years	4	7		
	b) 31-40years	1	1		
	c) 41-50years	1	2	4	1.149
	d) 51-60years	1	2		
	e) 61 and above	1	0		
2.	**Sex**				
	a) Male	2	4	1	0.010
	b) Female	5	9		
3.	**Religion**				
	a) Hindu	6	7	2	1.86
	b) Christian	1	4		
	c) Muslim	1	1		
4.	**Education**				
	a) Illiterate	1	1		
	b) Primary	4	6		
	c) Secondary	3	4	4	0.369
	d) Higher secondary	0	0		
	e) Graduate	0	1		
5.	**Occupation**				
	a) Student	0	1		
	b) Unemployed	4	8		
	c) Self	2	0	4	4.820
	d) Labor	1	4		
	e) Office worker	0	0		

(Table 12 continues)

(Table 12 continued)

S.No.	Demographic Variables	Below Mean	Above Mean	df	χ^2
6.	**Family income**				
	a) ₹. 2001- 5000	2	3		
	b) ₹. 5001 - 10,000	2	1	2	1.109
	c) ₹. 10,001 and above	4	8		
7.	**Personal habits**				
	a) Smoking	2	0		
	b) Tobacco chewing	2	3		
	c) Alcoholism	0	0	4	3.460
	d) Drug abuse	0	0		
	e) None	4	9		
8.	**Duration of Hospitalization**				
	a) 7 days	8	11	1	1.82
	b) > 7 days	0	1		
9.	**Other complementary therapy**				
	a) Heat application	0	0		
	b) Moist ice pack	0	0	3	0
	c) TENS	0	0		
	d) None	8	12		
10.	**Type of family**				
	a) Nuclear	6	8	1	0.157
	b) Joint	2	4		

In table 8, the demographic variables like age, sex, religion, education, occupation, family income, personal habits, duration of hospitalization, use of other complementary therapy and type of family showed no significant association with the pre test score of level of post- operative pain in the experimental group.

Table. 9 Association of Selected Demographic Variables with Pretest Scores of Post-Operative Sleep in Experimental Group

(n = 20)

S.No.	Demographic Variables	Below Mean	Above Mean	df	χ^2
1.	**Age**				
	a) 21-30years	6	5		
	b) 31-40years	0	2		
	c) 41-50years	1	2	4	4.59
	d) 51-60years	1	2		
	e) 61 and above	1	0		
2.	**Sex**				
	a) Male	2	4	1	0.46
	b) Female	7	7		
3.	**Religion**				
	a) Hindu	7	6		
	b) Christian	3	2	2	0.157
	c) Muslim	1	1		
4.	**Education**				
	a) Illiterate	1	2		
	b) Primary	5	5		
	c) Secondary	2	5	4	1.432
	d) Higher secondary	0	0		
	e) Graduate	0	0		
5.	**Occupation**				
	a) Student	1	0		
	b) Unemployed	7	5		
	c) Self	1	1	4	6.193
	d) Labor	0	5		
	e) Office worker	0	0		

(Table 13 continues)

(Table 13 continued)

S.No.	Demographic Variables	Below Mean	Above Mean	df	χ^2
6.	**Family income**				
	a) ₹. 2001-5000/-	1	4		
	b) ₹. 5001-10000/-	2	1	2	1.9640
	c) ₹. 10001/-and above	6	6		
7.	**Personal habits**				
	a) Smoking	0	2		
	b) Tobacco chewing	3	2		
	c) Alcoholism	0	0	4	2.097
	d) Drug abuse	0	0		
	e) None	6	7		
8.	**Duration of hospitalization**				
	a) 7 days	9	10	1	0.86
	b) > 7 days	0	1		
9.	**Other complementary therapy**				
	a) Heat application	0	0		
	b) Moist ice pack	0	0	3	0
	c) TEN	0	0		
	d) None	9	11		
10.	**Type of family**				
	a) Nuclear	7	7	1	0.417
	b) Joint	2	4		

In table 9, the demographic variables like age, sex, religion, education, occupation, family income, personal habits, duration of hospitalization, use of other complementary therapy and type of family showed no significant association with the pre test score of level of post- operative sleep in experimental group.

CHAPTER - V

Results and Discussion

This is a quasi-experimental study to assess the effectiveness of foot massage on level of post- operative pain and sleep among abdominal surgery patients in Ashwin Hospitals at Coimbatore. The data were analyzed by using descriptive and inferential statistics. The results of the study were discussed according to the objective.

The First Objective of the Study was to Assess the Level of Pain Among Patients with Abdominal Surgery Before Foot Massage in Experimental and Control Group

Level of post-operative pain was obtained by using numerical pain intensity scale. The independent 't' test was performed between the pretest value of control group and experimental group. The mean pretest pain level among control group and experimental group was 5.75 and 5.9. The calculated value of 't' was 0.0527 at 38 degrees of freedom and at 0.05 level of significance which is less than the table value (t=2.021). The findings implied that there was homogeneity exists among the control group and experimental group before giving foot massage.

Rose Adams (2011) conducted a study to evaluate the effect of foot massage on pain levels in the post-abdominal surgery patients. A convenience sample was used to identify research participants. Pain levels before and after massage therapy were recorded using a 0 – 10 visual analog scale. Quantitative and qualitative methods were used for analysis of this descriptive study. Before foot massage, the mean pain level

recorded by the patients was 5.18. After foot massage, the mean pain level was 2.33. The observed reduction in pain was statistically significant. Qualitative data illustrated improvement in all areas, with the most significant areas of impact reported being overall pain level, emotional well-being, relaxation, and ability to sleep. The result of the study shows positive effect of foot massage to reduce the pain among post abdominal surgery patients in the hospital set up.

The Second Objective of the Study was to Assess the Level of Sleep Among Patients with Abdominal Surgery Before Foot Massage in Experimental and Control Group

Level of post-operative sleep was obtained by using Clark's modified sleep assessment scale. The independent 't' test was performed between the pretest value of control group and experimental group. The mean pretest sleep score among control group and experimental group was 21.25 and 26.8. The calculated value of 't' was 0.31 at 38 degrees of freedom and at 0.05 level of significance which is less than the table value (t=2.021). The findings implied that there was homogeneity exists among the control group and experimental group before giving foot massage.

Somg. R. H (2009) conducted a study to examine the effects of foot reflexion massage on patient with sleep disturbance after abdominal surgery. The research design adopted for this study was non-equivalent control group pretest-posttest quasi-experimental design. The subjects in this study were 70 post surgical patients. An experimental group and a control group were organized with 35 subjects respectively, and foot reflexion massage was given for 3 sessions, 15 minutes each session to the experimental group. Sleep disturbance which was measured before and after foot

reflexion massage. The result of the study mentioned that experimental group improved sleep quality than the control group.

The Third Objective of the Study was to Provide Foot Massage to Reduce the Level of Post Operative Pain and Induce Sleep Among Patients with Abdominal Surgery

The samples were selected by non-probability convenient sampling technique on the basis of selection criteria. Selected samples were divided into 20 samples as control group and remaining 20 samples as experimental group. The purpose and duration of the study were explained to the samples. The abdominal surgery patients who were selected for the control group were assessed for level of post – operative pain and sleep on the immediate post – operative day and routine care was given. On 4^{th} post- operative day the level of post – operative pain and sleep was reassessed by using same numerical pain intensity scale and Clark's modified sleep assessment scale. The abdominal surgery patients selected for the experimental group were assessed for level of post – operative pain and sleep on the immediate post – operative day before foot massage by using numerical pain intensity scale and Clerk's modified sleep assessment scale. Then foot massage was given to the patient daily for 20 minutes, at morning for 4 days. At the end of the 4^{th} post – operative day post test was conducted by using the same rating scales.

Hays. A. J (2008) conducted a non equivalent control group, pre test post test design study in Northern Korean private hospital on 40 patients, who operated under general anesthesia to investigate the effects of foot massage on pain and improve sleep quality in post abdominal operative patients. Severity of pain and sleep quality

were checked with VAS and ISAS. Foot massage has been given 1-3 hours after the dose of pain medication in each 6 sessions. The severity of pain was decreased significantly in experimental group as compared to the control group. The quality of sleep also improved 3-5 hours than the control group. So the study concluded that the severity of pain and quality of sleep are inter related and foot massage was effective in post abdominal operative patients to control pain and improved quality of sleep.

The Forth Objective of the Study was to Assess the Level of Pain Among Patients with Abdominal Surgery After Foot Massage in Experimental and Control Group

Level of post-operative pain was obtained by using numerical pain intensity scale. The independent 't' test was performed between the post test value of control group and experimental group. The mean post test pain level among control group and experimental group was 7.3 and 3.7. The calculated value of 't' was 2.47 at 38 degrees of freedom and at 0.05 level of significance which is more than the table value (t=2.021). The findings implied that there was a significant difference existing between the control group and experimental group after performing foot massage.

Chugh. D (2008) conducted a quasi-experimental research approach with one group pre test-post test design which was used to determine the effect of ten minute foot massage on pain reduction in post surgical patients in a gastroenterology hospital China. Foot massage was given to selected post surgical patients twice a day for four days. At the end of the each session pain was measured. On the 4^{th} day a self report in the form of 5 point Likert scale was given to the patients to assess the pain response of the patients. The result indicating a significant difference in the pre and post

massage pain scores and the findings of the opinionnaire showed that 80-90% expressed a positive opinion of foot massage.

The Fifth Objective of the Study was to Assess the Level of Sleep Among Patients with Abdominal Surgery After Foot Massage in Experimental and Control Group

Level of post-operative sleep was obtained by using Clark's modified sleep assessment scale. The independent 't' test was performed between the post test value of control group and experimental group. The mean post test sleep level among control group and experimental group was 21.25 and 26.8. The calculated value of 't' was 2.47 at 38 degrees of freedom and at 0.05 level of significance which is more than the table value (t=2.021). The findings implied that there was a significant difference existing between the control group and experimental group after performing foot massage.

A similar study was conducted by Carolin (2012) among 40 surgical patients to assess the effectiveness of foot reflexology on insomnia. The foot reflexology was given for 10 days. The obtained pretest post test and t value were 63.2, 81.6 and 42.8 which implies that the foot reflexology was effective on level of insomnia.

The Sixth Objective of the Study was to Compare the Effectiveness of Foot Massage in Level of Pain and Sleep Among Patients with Abdominal Surgery in Experimental and Control Group

The independent 't' test was performed to compare the post test values of post operative pain and sleep between the control group and experimental group. The findings after analysis reveal that the post test value of post operative pain level

among control group and experimental value was 7.3 and 3.7. The calculated value of 't' was 2.47 at 0.05 level of significance which is higher than the table value (t=2.021). This shows that there was a significant difference in the post test value of post operative pain and sleep between the control group and experimental group. It showed that giving foot massage was effective in post operative pain and sleep in experimental group.

A similar study was conducted by Tasy, et.al., (2006) to invest the efficacy of foot reflex therapy in relieving pain and insomnia among post operative patients with gastric cancer. A total of sixty one patients were randomly allocated to an intervention (n=30) or control (n=31) group. Experimental group received the usual pain management and 20 minutes of foot reflex therapy during postoperative days 2, 3, and 4 where the control group received usual pain management. Results shown less pain ($P < .05$) and insomnia ($P < .05$) by the intervention group compared with the control group. Patients in the intervention group received significantly less opioid analgesics than the control group.

The Seventh Objective of the Study was to Associate the Finding with Selected Demographic Variables in Experimental Group

The χ^2 test was done on post operative pain and sleep and there was no significant association between the selected demographic variables like age, sex, religion, education, occupation, family income, personal habits, duration of hospitalization, use of other complementary therapy and type of family with the pretest score of post- operative pain and sleep in the experimental group.

CHAPTER - VI

Summary, Conclusion, Nursing implications, Limitations and Recommendations

Summary

Surgery has become an integral part of global health care, with an estimated 234 million operations performed yearly. A significant proportion of the population has undergone one or the other forms of surgical procedures at one or more points in the life time of an individual. Abdominal surgery is the most challenging thing needed for abdominal problems. The major abdominal problems are appendicitis, hernia and carcinoma in stomach. Therefore abdominal surgery is performed to determine the outcome after treatment. There are 7.4 million major abdominal surgeries per year in the world. This number is not expected to change significantly, growing to 8.1 million surgeries in 2020 in world. In India the incidence of abdominal surgery is 12.6% among adult males and 20.8% among adult females. Postoperative pain and associated sleep disturbance were both distressing and detrimental to the patient.

The management of postoperative pain and disturbed sleep involves assessment of the pain and sleep in terms of intensity, treatment by pharmacological and non pharmacological means as well as monitoring induced side-effects. Besides being physically and emotionally disabling, the pain and sleep associated with various physiological effects increase the perioperative stress response. Keeping this point in view, a study was conducted to assess the effectiveness of foot massage on level of post-operative pain and sleep among patients with abdominal surgery.

The Following Objectives were Set for the Study

- To assess the level of pain among patients with abdominal surgery before foot massage in experimental and control group.
- To assess the level of sleep among patients with abdominal surgery before foot massage in experimental and control group.
- To provide foot massage to reduce the level of post operative pain and induce sleep among patients with abdominal surgery.
- To assess the level of pain among patients with abdominal surgery after foot massage in experimental group.
- To assess the level of sleep among patients with abdominal surgery after foot massage in experimental group.
- To compare the effectiveness of foot massage on level of pain and sleep among patients with abdominal surgery in experimental and control group.
- To associate the finding with selected demographic variables in experimental group.

The Hypothesis Set for the Study

H_1 - There is a significant difference in pain among patients with abdominal surgery in experimental and control group.

H_2 - There is a significant difference in sleep among patients with abdominal surgery in experimental and control group.

H_0 - There is a significant association between the selected demographic variables with level of pain and sleep in experimental group.

Major Findings of the Study were as Follows

For Pain

- The pretest mean score of control group and experimental group before performing foot massage was 5.75and 5.9
- The obtained ‘t’ value of foot massage on the level of post-operative pain among control and experimental group before performing foot massage was 0.0527
- The post-test mean score of control group and experimental group after performing foot massage was 7.3and 3.7
- The obtained ‘t’ value of foot massage on the level of post operative pain among control group and experimental group was 2.47
- The pre test mean score of experimental group on the level of post operative pain was 5.9 and post test mean score of experimental group on the level of pain was 3.7
- The obtained ‘t’ value of foot massage on the level of post- operative pain among experimental group was 2.95
- The demographic variables like age, sex, religion, education, occupation, family income/ month, personal habits, any drugs to relieve pain, any other complementary therapy used to relieve pain and type of family showed no significant association with the pre test score of foot massage among experimental group.

For Sleep

- The pre test mean score of control group and experimental group before performing foot massage was 21.25and 26.8

- The obtained ‘t’ value of foot massage on the level of post-operative sleep among control and experimental group before performing foot massage was 0.31
- The post- test mean score of control group and experimental group after performing foot massage was 32and 7
- The obtained ‘t’ value of foot massage on the level of post operative sleep among control group and experimental group was 5.18
- The pre test mean score of experimental group on the level of post operative sleep was 26.8 and post test mean score of experimental group on the level of sleep was 7
- The obtained ‘t’ value of foot massage on the level of post- operative sleep among experimental group was 8.74
- The demographic variables like age, sex, religion, education, occupation, family income/ month, personal habits, any drugs to relieve pain, any other complementary therapy used to relieve pain and type of family showed no significant association with the pre test score of foot massage among experimental group.

Conclusion

The obtained ‘t’ value of post operative pain and sleep between control group and experimental group was greater than the table value at 38 degrees of freedom at 0.05 level of significance, the table value was 2.021 and the calculated value for pain and sleep were 2.47 and 5.18. So the findings showed that the foot massage has significant difference in the level of post operative pain and sleep among abdominal surgery patients. Thus the formulated alternative hypothesis was accepted hence it is concluded that the foot massage has significant effect on post- operative pain and sleep among abdominal surgery patients. Chi-square test was used to find out the

association of demographic variables with the post test pain and sleep score among abdominal surgery patients.

The demographic variables like age, sex, religion, education, occupation, family income/ month, personal habits, any drugs to relieve pain, any other complementary therapy used to relieve pain and type of family showed no significant association with the pre test score of post – operative pain and sleep among experimental group. Hence the null hypothesis was accepted.

Nursing Implications

The findings of the study have several implications in various areas of nursing education, practice, administration, and nursing research.

Nursing Practice

- It is the responsibility of the health professionals to be aware of the advancement in medical research and to disseminate the same to the general public for the betterment of their health in the future.
- People seek complementary and alternative medicine in order to avoid possible side effects of drugs, treatment and heavy expenses on medical care.
- Health professionals can make all the attempts to create awareness regarding foot massage.
- Teaching program can be conducted for groups, as it would allow both literate and illiterate clients to enhance their knowledge.

Nursing Education

- Efforts should be made to improve and expand nursing curriculum to provide more content concerning early identification and early intervention for abdominal surgery patients. More knowledge should be provided to the students regarding increasing popularity of alternative and complementary therapies like foot massage. Students can be encouraged to take up projects and studies on foot massage.
- Nurse educators should emphasize more on preparing students to impart health information to the public regarding complementary therapies like foot massage.
- Nursing students should be taught about the importance of health education and various methods of providing health education regarding non-pharmacological measures for pain and sleep.
- Periodic seminars and group discussion can be arranged regarding care of abdominal surgery patients with pain and poor sleep.

Nursing Administration

- Nursing administrators need to organize continuing nursing program for nursing professionals regarding abdominal surgery patient's care and motivate them to participate in such non pharmacological activities.
- Nursing administrators should develop nursing practice standards, protocols and manuals for pain and sleep assessment and its management.
- Nursing administrators can collaborate with the community leaders to provide care and attention to abdominal surgery patients.
- Nurse administrators should conduct teaching program for abdominal surgery patients regarding various complementary therapies.

- Nurse administrators should keep good contact with help group and services available and should act as a referral agent.

Nursing Research

- Findings of the present study suggest that education and administration should encourage nurses to read, discuss and conduct research to improve knowledge and practice on foot massage and bring about public awareness.
- This study can be used for evidence based nursing practice as a rising trend. It can be a motivation for nurses to conduct research in future on comparing different treatment modalities for post- operative pain and sleep among abdominal surgery patients.
- Emphasis should be laid on research in the area of non-pharmacological measures for pain and sleep management in post – operative patients.
- Nursing researches are the means of expanding the body of knowledge and broaden the scope of nursing. This is possible only if the nurses take initiative in conducting further studies. More research on this area would be beneficial for abdominal surgery patients with post- operative pain and sleep. The effectiveness of research study can be made by further implication of study.

Limitations

- The size of the sample was small to draw conclusion.
- The researcher could not use randomized sampling technique in this study.
- Long term follow up care was not possible due to limited time.

Recommendations

- A similar study can be conducted for a large group of samples as a long term basis.
- A similar study can be conducted with randomization of samples.
- A comparative study also can be done to evaluate foot massage and therapeutic touch in terms of pain reduction among patients with abdominal surgery.
- A similar study can be conduced to assess the effectiveness of foot massage on selected physiological parameters.

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ABSTRACT

Statement of the Problem : A study to assess the effectiveness of foot massage on level of post- **o**perative pain and sleep among patients with abdominal surgery at Ashwin hospital, Coimbatore. **Objectives : a)** To assess the level of pain among patients with abdominal surgery before foot massage in experimental and control group. **b)** To assess the level of sleep among patients with abdominal surgery before foot massage in experimental and control group. **c)** To provide foot massage to reduce the level of post operative pain and induce sleep among patients with abdominal surgery. **d)** To assess the level of pain among patients with abdominal surgery after foot massage in experimental group. **e)** To assess the level of sleep among patients with abdominal surgery after foot massage in experimental group. **f)** To compare the effectiveness of foot massage on level of pain and sleep among patients with abdominal surgery in experimental and control group. **g)** To associate the finding with selected demographic variables in experimental group. **Methodology :** Pretest post test Control Group design as a subtype of Quasi Experimental Research design was adopted for assessing the effectiveness of foot massage on the level of post operative pain and sleep among patients with abdominal surgery. The selected sample size was 40, out of which 20 belong to experimental group and 20 belong to control group, selected by non probability convenient sampling technique. **Results :** Descriptive and inferential statistics were used to analyze the values. The obtained 't' value for the level of post operative pain and sleep after performing foot massage were 2.47 and 5.18. **Conclusion :** The foot massage has significant effect in level of post operative pain and sleep among abdominal surgery patients.

P.P.G COLLEGE OF NURSING

(A Unit of P. Perichi Gounder Memorial Charitable Trust)
(Affiliated to the Tamilnadu Dr. MGR Medical University)
(Approved by Government of Tamilnadu)
(Recognised by Indian Nursing Council)
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E-mail: aswinhospital@touchtelindia.net * Website: www.ppgcollege.org

To

Through

The Principal,
PPG College of Nursing
Coimbatore – 35.

Respected Sir,

Sub : Seeking permission for conducting research study

I am a student of M.Sc Nursing in PPG College of Nursing. Our college is affiliated to the Tamilnadu Dr. M. G. R Medical University, Chennai. I have taken the specialization in Medical Surgical Nursing.

Topic : A STUDY TO ASSESS THE EFFECTIVENESS OF FOOT MASSAGE ON POST OPERATIVE PAIN AND SLEEP AMONG PATIENTS WITH ABDOMINAL SURGERY AT ASHWIN HOSPITAL, COIMBATORE

I request you to kindly permit me to conduct my study in your Hospital. Hope you will consider my requisition and do the needful.

Thanking you,

Yours sincerely,

Date :

Place : Coimbatore

Requisition Letter for Content Validity

From

M.Sc (N) II Year,
PPG College of Nursing,
Coimbatore – 35.

To

Through : Principal, PPG College of Nursing

Respected Sir/Madam,

Sub : Requisition for expert opinion and suggestion for content validity of tool

I am a student of M.Sc (N) II year, PPG College of Nursing affiliated to the Tamilnadu Dr. M. G. R. Medical University, Chennai. As a partial fulfillment of the M.Sc (N) programme. I am conducting

A STUDY TO ASSESS THE EFFECTIVENESS OF FOOT MASSAGE ON POST OPERATIVE PAIN AND SLEEP AMONG PATIENTS WITH ABDOMINAL SURGERY AT ASHWIN HOSPITAL, COIMBATORE

Herewith I have enclosed the developed tool for content validity and for the expert opinion and possible solution. It would be very kind of you to return the same as early as possible.

Thanking you,

Yours faithfully,

PPG College of Nursing

Format for the Content Validity

Name of the expert :

Address :

Total content for the tool :

Kindly validate each tool and tick wherever applicable

S.No	No. of Tool/Section	Strongly Agree	Agree	O.K	Not Applicable	Need Modification	Remarks

Remarks

Signature of the Expert with Date

NANGELI YOGA & NATUROPATHY CENTRE

(A Unit of Nangelil Marma Chikilsa Kendram)
Near Thaikkara Shiva Temple, Pulluvazhy P.O,
Perumbavoor, Ernakulum- 683 541
Ph No: 0484-2584359, Fax: 0484-2588654 Mobile No: 9447235393

CERTIFICATE

This is to certify that Ms. REMYAMOL.P.S successfully completed fifteen days (6-5-2013 to 24-5-2013) of theory and practical training in foot massage.

NANGELI YOGA & NATUROPATHY CENTRE
Reg.No: 55/TA/2014
DATE:
PULLIVAZHY, PIN-683 541

Mr. Santosh Kumar

Chief Yoga & Naturopathy

Consultant & Managing Trustee

LIST OF EXPERTS

1. **Dr. L.P THANGAVELU**

   Medical Director

   Ashwin Hospital

   Coimbatore.

2. **Prof. MEENAKSHI SUNDARAM**

   RVS College of Nursing,

   Coimbatore.

3. **Prof. FUELA**

   Sri Ramakrishna College Of Nursing,

   Coimbatore.

4. **Prof. K. RAJI**

   Vice Principal,

   K.G College Of Nursing,

   Coimbatore.

5. **Prof. KAVITHA**

   Vice Principal,

   Ganga College of Nursing,

   Coimbatore.

SECTION - A

Demographic Variables

Instructions

Kindly go through the different items of questionnaire carefully and indicate your response by placing a tick mark (✓) on appropriate one.

Sample No: _____

1. Age in years

a) 21 – 30 ☐

b) 31 - 40 ☐

c) 41 – 50 ☐

d) 51 - 60 ☐

e) Above 61 ☐

2. Gender

a) Male ☐

b) Female ☐

3. Religion

a) Hindu ☐

b) Muslim ☐

c) Christian ☐

4. Educational status

a) Illiterate ☐

b) Primary ☐

c) Secondary ☐

d) Higher secondary ☐

e) Graduate ☐

5. Occupation

a) Student ☐

b) Unemployed ☐

c) Self employed ☐

d) Labor ☐

e) Office worker ☐

6. Monthly income

a) ₹. 2001-5000 ☐

b) ₹. 5001-10000 ☐

c) ₹. 10001 and Above ☐

7. Personal Habits

a) Smoking ☐

b) Tobacco chewing ☐

c) Alcohol ☐

d) Drug abuse ☐

e) None ☐

8. Duration of Hospitalisation

a) 7 days ☐

b) >7 days ☐

9. Any Other Complementary Therapy Used to Relieve Pain?

a) Heat application ☐

b) Moist ice pack ☐

c) Trans-cutaneous electrical nerve stimulation ☐

d) None ☐

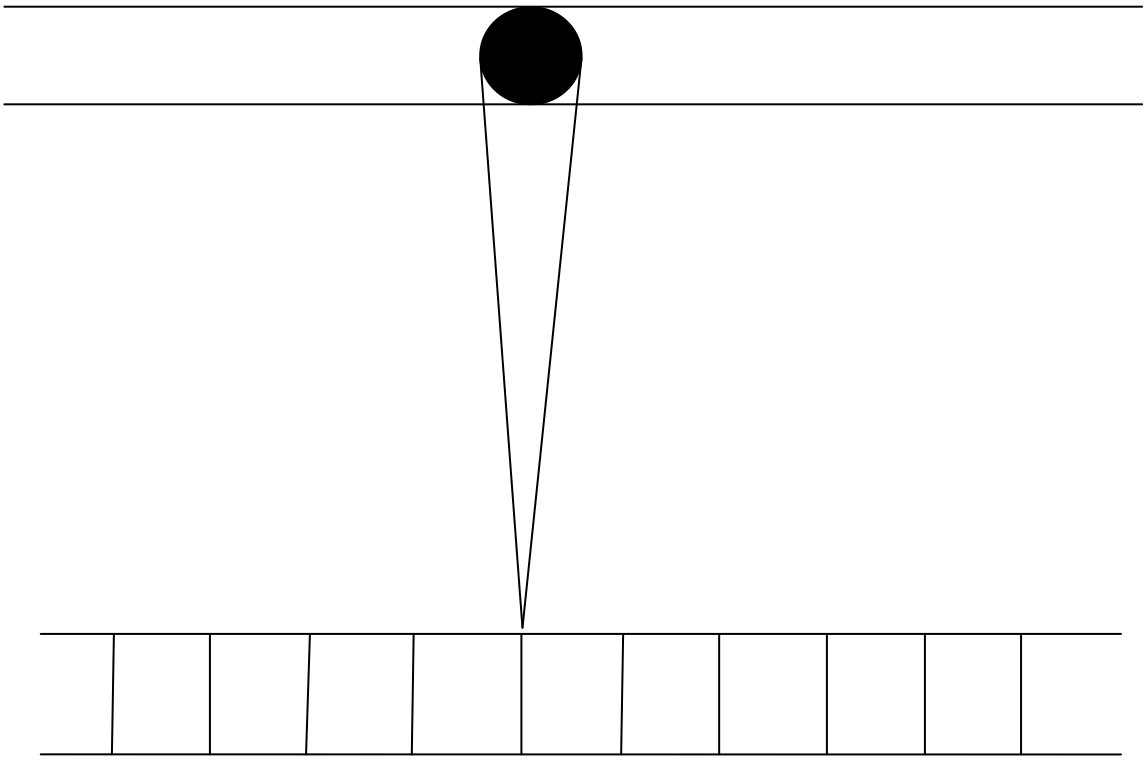
10. Type of Family

a) Nuclear family ☐

b) Joint family ☐

SECTION- B

Numerical Pain Intensity Scale



0 1 2 3 4 5 6 7 8 9 10

No pain Mild Pain Moderate Pain Severe Pain

Description

0 : None

1-3 : Mild pain

4-7 : Moderate pain

> 7 : Severe pain

SECTION - C

Modified Clark's Sleep Assessment Scale

Instruction

Kindly go through each item of the questionnaire carefully and indicate your response by placing a tick (✓) mark in the box.

S.No.	Response	Not at all	A little bit	Moderate	Quite a bit	Extreme
1.	Whether you have normal sleep at night?					
2.	After falling asleep do you wake up in the middle of the night due to pain or other discomfort?					
3.	Do you wake up too early in the morning?					
4.	Do you have head ache due to disturbed sleep?					
5.	After a typical night do you feel like you have not rested or refreshed?					
6.	Do you have day time sleepiness?					
7.	Do you have difficulty in concentrating?					
8.	Do you use any type of sleep aids (sedatives)?					
9.	Do you use caffeinated beverages such as coffee, tea or soda?					

10.	Are you concerned about your safety, comfort or security in your sleeping quarters?					

Description

0 - not at all

1 - a little bit

2 - moderately

3 - quite a bit

4 - extreme

Total Score

Grading of Sleep	**Score**
Good sleep	0-10
Mild disturbance	11-20
Moderate disturbance	21-30
Severe disturbance	31-40

பிரிவு – அ

குறிப்பு

பின்வரும் கேள்விகளை நன்றாக வாசித்து சரியான விடையை அதற்கான கட்டத்தில் (✓)குறிப்பிடவும்.

1. வயது

அ. 21-30 வருடம் ☐

ஆ. 31-40 வருடம் ☐

இ. 41-50 வருடம் ☐

ஈ. 51-60 வருடம் ☐

உ. 61 மற்றும் அதற்கு மேல் ☐

2. பாலினம்

அ. ஆண் ☐

ஆ. பெண் ☐

3. மதம்

அ. இந்து ☐

ஆ. கிறிஸ்துவர் ☐

இ. இஸ்லாமியர் ☐

4. கல்வித்தகுதி

அ. படிக்காதவர் ☐

ஆ. ஆரம்பக்கல்வி ☐

இ. இடைநிலைக்கல்வி ☐

ஈ. உயர்நிலைக்கல்வி ☐

உ. பட்டப்படிப்பு ☐

5. வேலை

அ. கூலித்தொழில் ☐

ஆ. மாணவன் ☐

இ. வேலையில்லாதவர் ☐

ஈ. சுயவேலை ☐

உ. அலுவலகப் பணி ☐

6. குடும்ப வருமானம்

அ. ₹. 2001- 5000 ☐

ஆ. ₹. 5001-10000 ☐

இ. ₹. 10000 அதற்கு மேல் ☐

7. பழக்கவழக்கங்கள்

அ. புகைப்பிடித்தல் ☐

ஆ. வெற்றிலை போடுதல் ☐

இ. மது அருந்துதல் ☐

ஈ. போதை மருந்து உட்கொள்ளல் ☐

உ. ஒன்றுமில்லை ☐

8. மருத்துவமனையில் இருந்த நாட்கள்

அ. 7 நாட்கள் ☐

ஆ. 7 நாட்களுக்கு மேல் ☐

9. வேதனையை அல்லது வலியை குறைக்கக் கூடிய இதர மருத்துவ முறைகள் உபயோகப்படுத்துகிறீர்களா ?

அ. சுடுதண்ணீர் ஒத்தடம் ☐

ஆ. ஐஸ் பேக் ☐

இ ∴டிரான்ஸ்குட்டேனியஸ் எலக்ரிக்கல் நரம்பு ஸ்டிமுலேஷன் ஒன்றுமில்லை. ☐

ஈ. ஒன்றுமில்லை ☐

10. குடும்ப வகை

அ) தனிக்குடும்பம் ☐

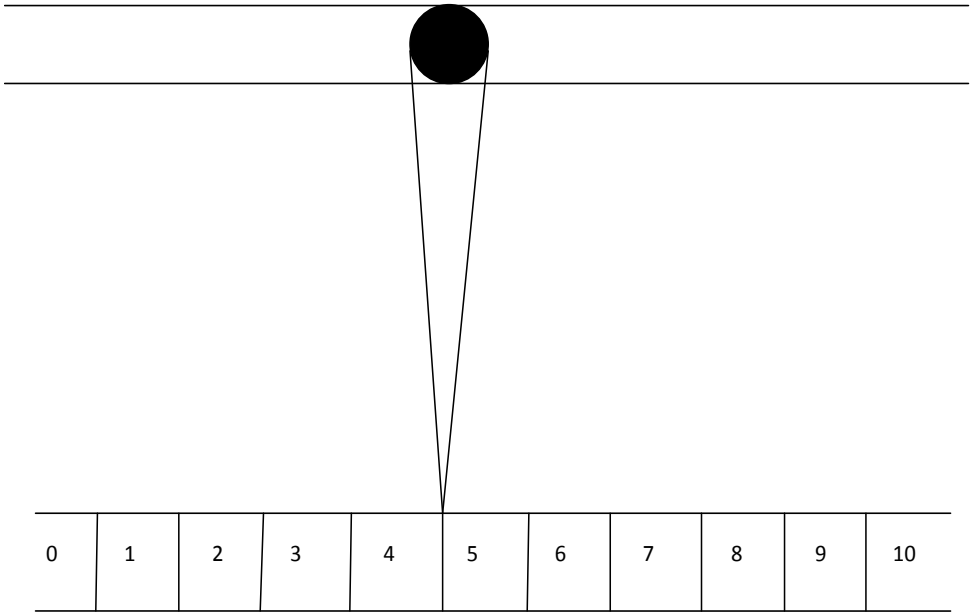
ஆ) கூட்டுக்குடும்பம் ☐

பிரிவு - ஆ

வலி மதிப்பீட்டிற்கான பார்வை அளவுகோல்

குறிப்பு

கீழே கொடுக்கப்பட்டுள்ள அளவீட்டில் 0 முதல் 10 வரை உள்ளது. உங்கள் வலியின் தீவிர தன்மைக்கேற்ப சுட்டிக்காட்டவும்



மதிப்பெண்கள்

0 : வலி இல்லை

1-3 : குறைந்த அளவு வலி

4-7 : மிதமான வலி

> 7 : அதிகபட்சமான வலி

பகுதி- இ

திருத்தம் செய்யப்பட்ட கிளார்க் தூக்கம் மதிப்பீடு அளவு

குறிப்பு :

ஒவ்வொரு வினாக்களுக்கு உங்களது பிரச்சனையை வெளிப்படையாக கூறவும். பின்வரும் தூக்கம் சம்மந்தப்பட்ட அனைத்து வினாக்களுக்குரிய விடையை கீழே கொடுக்கப்பட்டுள்ள கட்டத்தில் கவனமாக இந்த (✓) குறியிட்டு காட்டவும்.

வ. எண்	வினாக்கள்	ஒன்றுமில்லை (0)	சிறிதளவு (1)	மிதமான அளவு (2)	அதிகமாக வருவது (3)	மிக அதிகமாக (4)
1.	உங்களின் தூக்கம் மிகவும் நன்றாக உள்ளதா?					
2.	தூக்கத்தில் நீங்கள் விழிக்கும் போது வலி மற்றும் தொந்தரவு ஏதேனும் ஏற்படுகின்றதா?					
3.	மிக அதிகாலையில் தூக்கத்தில் இருந்து எழுவதுண்டா?					
4.	தூக்கம் சரிவர இல்லாத காரணத்தினால் உங்களுக்கு தலைவலி, ஏதேனும் தொந்தரவு உள்ளதா?					
5.	தூங்கி எழுந்த பிறகு புத்துணர்வு உள்ளவாறு உணர்கிறீர்களா?					
6.	காலையில் உறங்கும் பழக்கம் உண்டா?					

7.	வேலைகளில் கவனம் செலுத்துவதில் பிரச்சனை உண்டா?					
8.	தூக்கத்தை அதிகரிக்க தூக்கமாத்திரைகளை எடுப்பதுண்டா?					
9.	தூக்கத்தை கலைக்கும் குடிபானங்களை (காப்பி, சோடா, தேநீர்) அருந்துவதுண்டா?					
10.	நீங்கள் தூங்கும் போது பாதுகாப்பிற்க்கும் மற்றும் சௌகரியத்திற்கும் அதிக கவனம் செலுத்துவதுண்டா?					

மதிப்பெண்

0 - ஒன்றுமில்லை

1 - சிறிதளவு

2 - மிதமான அளவு

3 - அடிக்கடி

4 - மிக அதிகமாக

மதிப்பீட்டு அளவுகோல்

தூக்கத்தின் அளவு	**அளவுகோல்**
நல்ல தூக்கம்	0-10
சிறிதளவு தூக்கம்	11- 20
அடிக்கடி தூக்க தொந்தரவு	21-30
அதிக தொந்தரவு	31- 40

PROTOCOL

Introduction

Massage is the manipulation of superficial and deeper layers of muscle and connective tissue using various techniques, to enhance function, aid in the healing process, decrease muscle reflex activity, inhibiting motor neuron excitability and promote relaxation and well-being and also as a recreational activity. Foot massage is usually done in the soles of the feet and is performed purely for relaxation.

Definition

Foot massage is a physical activity of applying pressure to the feet with specific thumb, finger and hand techniques.

Indication of Foot Massage

- Multiple sclerosis
- Post abdominal surgeries and coronary artery bypass surgery
- Cancer
- Migraine
- Asthma
- Anxiety
- Hypertension
- Bladder problems
- Pre menopausal and menopausal symptoms

Benefits of Foot Massage

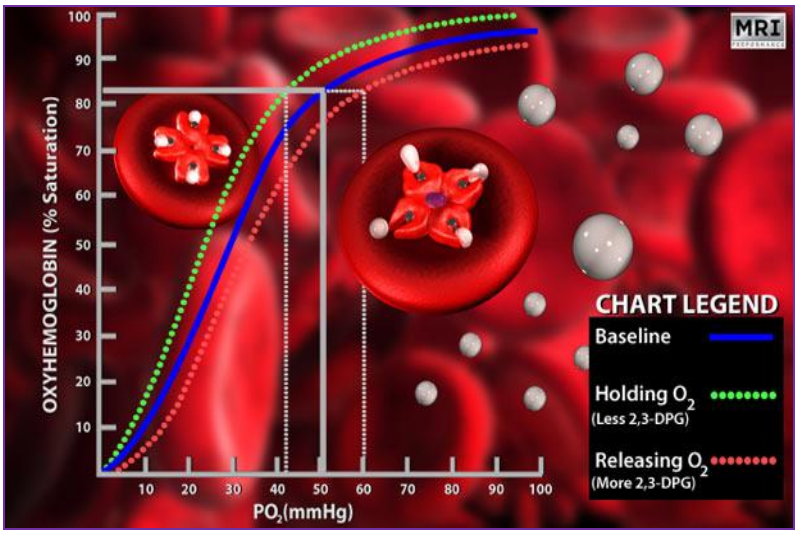
- Relieve pain

- Induce sleep

- Reduce blood pressure

- Dilate blood vessels.

- Delivery of Fresh Oxygen and Nutrients to the Tissue is Improved.



- Relax the Muscles

Mechanism of Foot Massage

For Pain

Pain is a subjective experience of a person after abdominal surgery. So immediately after tissue damage, sensory nerve endings are suddenly exposed to a verity of cellular break down products and inflammatory mediators. That triggers acute nociceptive activity. These chemical mediators generate local pain sensation and this pain message will reach the brain via dorsal horn.

While doing foot massage, it stimulates large nerve fibers and dermatome layers, which contains tactile and pressure receptors. These receptors subsequently transmit the nerve impulse to the central nervous system. Then the gate control system in the dorsal horn is activated through the inhibitory interneuron, thus closing the gate. Subsequently the brain does not receive the pain message.

For Inducing Sleep

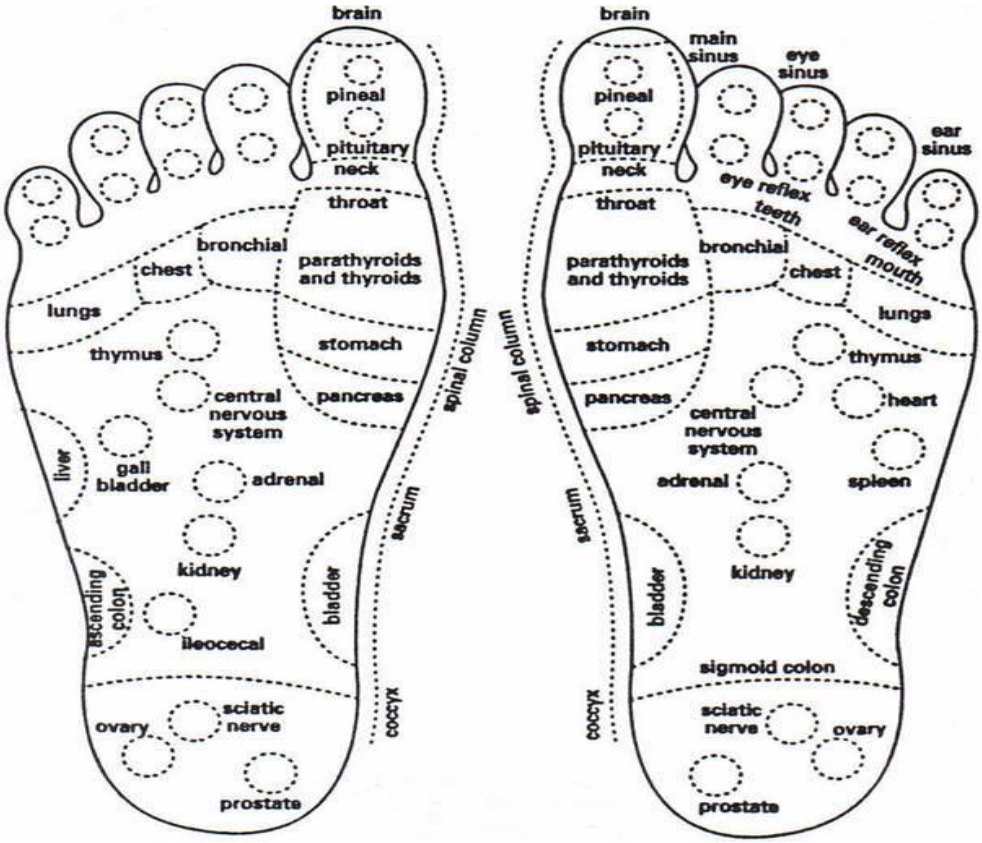
While doing foot massage, applying pressure on the entire foot stimulates the diaphragm and solar plexus of the foot.

There by increase the production of seratonin, a neurotransmitter or chemical that stimulates the hypothalamus of the brain induces sleep.

Duration

- 10-20 minutes, once a day for 4 days

Zones of Feet



Technique

Superficial Stroking

Superficial stroking is a technique that glides over the skin without attempting to move the deep muscle masses. Use the thumbs and fingers to make circular movements over the top to bottom of the foot, around the ankles and back of the foot for 2-5 minutes, rub slowly with moderate pressure.

Effleurage

A technique in massage, in which long, light or firm strokes are, used over the foot from the brain to the sciatic nerve points. The duration of this technique depends upon patient condition and it is varies from 1-2 minutes.

Kneading

A massage stroke that attempt to move a muscle mass gently. This technique stimulates the meridian points of the toes especially on the chest, stomach and central nervous system points for 4-8 minutes.

Finger kneading

This manipulation is performed by fixing the finger tips in certain area of the finger. Gently slide all five fingers between each of the toes for no more than 10 times (1-2minutes) and squeeze the toes gently, starting with the big toe and working the way to the smallest.

Friction

A massage stroke permits deeper work with the tissues. Use the thumb fingers and deeply put pressure on CNS, pelvic and abdominal points and also entire zones and back of the foot for 2-3 minutes.

Steps for Doing Foot Massage

General Steps

Step 1

- Explain the procedure to the patient. Place the patient in supine position on their back with face up and instruct that while doing foot massage if they feel any discomfort inform at the time itself.

Step 2

- Clean the foot and cover the resting area of the foot with a towel.

Step 3

- Superficial stroking
    a) Hold the bottom of the foot with both hands.
    b) Use the thumbs to make circular movements over the top to bottom of the foot, around the ankles and back of the foot for 2-5 minutes.
    c) Rub slowly with moderate pressure.
    d) Apply more pressure as getting closer to the sole

Step 4

- Effleurage
    a) Apply long, light or firm strokes, over the foot.
    b) It is from the brain to the sciatic nerve points of the foot.

Step 5

- Kneading
    a) In which the muscle mass moves gently.
    b) Stimulate the meridian points of the toes especially on the chest, stomach and central nervous system points.

Step 6

- Finger kneading

a) Pull the finger tips with gentle pressure.

b) Gently slide all five fingers between each of the toes.

c) Squeeze the toes gently, starting with the big toe and working the way to the smallest.

Step 7

- Friction:

Use the thumb fingers and deeply put pressure on CNS, pelvic and abdominal points and also entire zones and back of the foot.

Step 8

- Continue the procedure for 10-20 minutes and observe the patient for few minutes after the procedure.

Contraindications

- Skin disorder
- Those who are having lower limb fracture associated with abdominal surgery.
- Those who are undergoing emergency surgery
- Paralyzed and having disturbance in sensory perception

Conclusion

Foot massage is the physical technique that is performed by the hands. It can be easily accessible and cost- effective .The intervention can be applied to the people in any body positions by stimulating the client's skin by superficial stroking, effleurage, kneading and friction.

A STUDY TO ASSESS THE EFFECTIVENESS OF FOOT MASSAGE ON LEVEL OF POST OPERATIVE PAIN AND SLEEP AMONG PATIENTS WITH ABDOMINAL SURGERY AT ASHWIN HOSPITAL, COIMBATORE

ACKNOWLEDGEMENT

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